

# AMERICAN RAILROAD JOURNAL,

AND

## IRON MANUFACTURER'S AND MINING GAZETTE.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 48 SOUTH THIRD STREET, PHILADELPHIA, AT FIVE DOLLARS A YEAR, IN ADVANCE.

SECOND QUARTO SERIES, VOL. IV., No. 38] SATURDAY, SEPTEMBER 16, 1848. [WHOLE No. 646, VOL. XXI.

### PRINCIPAL CONTENTS.

Wilmington and Manchester Railroad.....	593
New York and Erie Railroad.....	593
Pennsylvania Coal Trade.....	594
The Plough, the Loom and the Anvil.....	594
South Carolina Railroad.....	595
Petersburg Railroad Report.....	597
Prospects of the Iron Trade in England.....	599
Pile Driving.....	599
Compressed Air Locomotives.....	599
India Rubber Car Springs.....	600
English Railway Statistics.....	600

### AMERICAN RAILROAD JOURNAL.

PUBLISHED AT 48 S. THIRD ST., PHILADELPHIA.

Saturday, September 16, 1848.

### REMOVAL.

The Office of this Journal is removed from the Franklin House, to No. 48 SOUTH THIRD STREET, third door north of the Girard Bank.

A special request is hereby made, to those to whom Circulars have been recently addressed, that they will respond promptly to them, as an important question—to us at least—is to be decided in accordance with the response given to the request made in those circulars.

#### Hammered Car Axles.

Some attention having been attracted to the question whether rolled car axles may be used with safety, a note was addressed by Messrs. Andrew Taylor & Co., (manufacturers of hammered axles, in Reading, Pa.) to G. A. Nicolls, Esq., the superintendent of the Philadelphia, Reading and Pottsville railroad, making some inquiry as to their relative merit. The following is the reply, which being of general interest, we publish.

Reading, Pa., August 12, 1848.

Messrs. ANDREW TAYLOR & CO.,

Gentlemen—I have just received your favor of today, asking my opinion on the subject of hammered and rolled iron for railroad axles.

After an experience of about 12,000 axles, both hammered and rolled, used on our engines, tenders, coal, freight and passenger cars, for some years past—we give a decided preference to the hammered axle, and have used no other description for four or five years past.

Having erected machinery for the purpose, we make our own axles, of hammered iron altogether; we have received no other kind in any engines or cars built by contract during the period just stated.

No difference in cost, however great, could induce us to use the rolled axle.

I am very respectfully yours,

G. A. NICOLLS,

Eng., etc., Reading Railroad.

#### Patent Coal Boller.

By an oversight, the article in relation to this boiler in our last number, was commenced on the wrong page. It should have commenced on page 584, instead of 578—and the beautiful lithograph print should open to the right—and then it would be convenient to the reader—but even as it is, we feel quite sure that both will be found, read and examined with care—and we hope soon tested in the most thorough manner. It should have a thorough trial given to it at once—and adopted if found to answer the purpose anticipated—or abandoned if otherwise.

#### Wilmington and Manchester Railroad.

We have before us the proceedings of the stockholders of this road, at their stated annual meeting; on 22d June last, at Darlington C. H., South Carolina.

It was reported at the meeting that "the increase of subscription, since the last annual meeting, was about \$110,000—of which \$70,000 was unconditional, and that the whole amount subscribed at that time unconditionally was \$481,000."

It was stated that offers had been made by responsible contractors, to build the road at the estimates of the engineers; and to take a considerable amount of stock in payment.

The following gentlemen were chosen directors for the ensuing year, viz:

Gen. W. W. Harley, Marion; E. B. Dudley, H. Nutt, N. N. Nixon, John A. Taylor, Wilmington; Augustus Smith, Columbus; J. J. Moore, R. B. Mndrow, Sumter; Jas. S. Gibson, John M. Timmons, Darlington; J. Eli Gregg, Marion.

Gen. W. W. HARLEY was chosen president—Gen. E. B. DUDLEY, the former president, declining on account of ill health.

We have also a letter before us, from which—though it is not designed for publication—we make a short extract to show that those having it in charge

have resolved to have a railroad—a connecting link—between those of North and South Carolina; and that they have adopted the right course to accomplish the object, viz: taken off their coats, and taken hold of the implements of construction, under the direction of competent men. This is as it should be, and we congratulate them on their decision—and determination—to "build the road at any rate."

The writer says—"Since that meeting the board of directors have met, and determined forthwith to locate the road, and have authorised the letting out of contracts as fast as located."

"Accordingly we have engaged the services of Maj. WALTER GUYMAN, of Virginia, as chief engineer, and expect in a few weeks to have two corps of engineers on the road, one commencing at the northern and one at the southern terminus of the line."

"We have about \$700,000 subscribed, and have every assurance that along the line all that is required for grading and superstructure, except iron, will be readily made up, so as to prepare the road at a short period for the iron."

"We hope to be enabled to secure the necessary amount for the purchase of iron, cars, etc., by the time we need them. . . . At any rate we will build the road."

We need hardly say that any service, in accomplishing this very desirable object, which this Journal can render, will be cheerfully performed.

#### New York and Erie Railroad.

This company commenced on Monday, 14th of August, says the Binghamton Journal, to lay the "track from the railroad depot in this village, eastward. We learn that the party at this end of the line are expected to lay nearly two miles of the rails per week. The iron rails, weighing 60 lbs. to the yard, are from the Montour iron works in Pennsylvania. The cast iron chairs are from the foundry at Corbeusville, about ten miles above this on the Susquehanna, and weigh about 15 lbs each. The rails are secured to the cross ties by these cast iron chairs, at intervals of 18 feet, and also spiked at intervals of 24 feet.

"The first car was put upon the track on Wednesday, for the transportation of materials; and the track laying will now continue uninterruptedly, with an increased force, until the whole road is opened to New York, which is estimated to take place on the 1st of January next."



On the 1st day of January next, we hope to visit Binghamton in the company's new cars.

From the Philadelphia Commercial List, 17th Pennsylvania Coal Trade for 1884.

The amount of coal shipped from the Lehigh mines during the week ending the 2d inst., and since the opening of the navigation, has been as follows:

	This week	Total this year
By Lehigh company, Sept. 4..	7,242 06	157,309 15
By Room Run .....	3,758 18	79,101 18
By Hazleton .....	2,009 00	62,300 00
By Beaver Meadow .....	2,603 09	54,257 09
By Spring Mountain .....	3,511 19	44,012 17
By Buck Mountain .....	2,794 03	48,509 03
By Cranberry Mines .....		7,880 00
White Haven .....	605 04	5,696 16
Sugar Loaf .....	61 00	442 06

Total .....

From the Schuylkill Mines.

The amount of coal forwarded by Reading railroad during the week ending the 7th inst., and since the 1st of January, has been as follows—

	Tons
From Schuylkill Haven .....	9,694 16
Port Carbon .....	4,770 01
Port Clinton .....	6,299 04
Total this week .....	23,355 01

The following is an official statement of the total amount sent to market this year:

	Tons
From Port Carbon .....	264,123 16
From Pottsville .....	134,010 10
Schuylkill Haven .....	356,935 04
Port Clinton .....	99,123 17
Total .....	853,193 07

The amount of coal brought to market by the Schuylkill canal during the week ending the 7th inst., and since the opening of the canal, has been as follows—

	Tons
From Pottsville and Port Carbon .....	7,354 18
Schuylkill Haven .....	3,345 19
Port Clinton .....	1,156 18
Total this week .....	11,857 07
Total this year .....	285,813 06

Recapitulation.—Total Shipments this Season.

By Lehigh companies .....	460,115 08
By Reading railroad .....	853,193 07
By Schuylkill canal .....	585,813 06
By Delaware and Hudson canal .....	344,649 00

Total .....

The Plough, the Loom and the Anvil.

We have received the third number of this new, and highly deserving candidate for the public favor—the two first having been sometime on our table—from which we take an excellent article on "The Iron Trade of the Union." The views, or we should say the important truths, put forth by the able, and always useful, editor, ought to be read and pondered by every farmer and every planter in the country.

The first sentence, viz: that "every man is either a customer to the farmer and planter, or a rival to him," speaks a truth so important that it should arrest the attention of every cultivator of the soil, and cause him to read the entire article with care.

We might go on quoting equally important truths, until the space allotted to this article was filled, but we will give but one more detached from the article—which is as follows, viz: "The larger the proportion of consumers to producers, the larger will be the return to the labor of the farmer and planter, and the more valuable will be their land. The larger the proportion of producers to consumers, the small-

er will be the return to the labors of the farmer, and the less valuable will be his land."

From "The Plough, the Loom and the Anvil," for September, 1883, vol. I, No. 1.

The Iron Trade of the Union, and its Influence upon the Interests of the Farmer and Planter.

Every man is either a customer to the farmer and planter, or a rival to him. Every man that is raised here, and every one that is imported, may be made a customer while employing himself in the work of fashioning wool or cotton into cloth, or coal and ore into iron, or wood and iron into ploughs, and axes, and harrows, or into steamboats, or cotton, or wools, or other machinery, but if prevented from becoming a customer he must himself become a producer of food, or cotton, and therefore a rival to the farmer and planter. The larger the portion of consumers to producers, the larger will be the return to the labor of the farmer and planter, and the more valuable will be their land. The larger the proportion of producers to consumers, the smaller will be the return to the labors of the farmer, and the less valuable will be his land. These are plain and simple truths, which we desire to impress on the minds of our agricultural readers, before asking them to accompany us in an examination of the influence upon their interests now exercised by the iron trade of the Union.

In looking at the coal trade we began with the producers. In the present case we shall begin with the consumers. And first, we may inquire who are the real consumers of all the vast mass of iron that is manufactured and imported.

The farmer and planter require vast quantities of iron for the construction of axes, and ploughs, and harrows, and other implements required to be used in production of food and of the raw materials of clothing—large quantities for the transportation of their produce in carts, and wagons, and steamboats, and cars, and on railroads, to the place of consumption, and for bringing back the sugar, and the coffee, and the cloths, required for their nourishment and protection—and other large quantities for the machinery required for the conversion of their wool and cotton into cloth, their timber into buckets and tubs, and carts, and wagons, and steamboats, and the thousand other articles required for the uses of themselves and their fellow-men. They are great consumers of iron. They use nine-tenths of all that is made and all that is imported. They pay for nearly all of it, for of the little that is not directly consumed and paid for by them, a large portion is consumed and paid for by men who live by transporting and exchanging their products, themselves producing nothing.

Nevertheless, they appear to buy very little of it. Why is it so? It is because the present system of the world causes the waste of a large portion of their products on the road, and in the transportation and exchange, the planter giving five bales of cotton for one bale of cloth when he should receive two bales of cloth for three bales cotton, and would receive them but for the wasteful process to which we have referred. Towns and cities are thus

built up at the cost of the planter and farmer, who remains poor and are compelled to scatter themselves over the earth, and to solicit the people of those towns and cities to make roads for them, when if they had the fashioner of their products in their own neighborhoods, they would grow rich and make their own roads. They it is that consume railroad iron, and iron in all its other forms, and they it is that pay for it, although indirectly.

If, now, we desire to understand how they pay for it, we may begin by placing ourselves alongside of a furnace, or rolling-mill, and watching how the farmer pays to the furnace-master the price of a ton of iron. On one day, he carries him a load of potatoes. On another, he carries eggs, and milk, and veal. On another, a load of hay. On a fourth, he carries him a load of lumber, the produce of his best lands, so heavily timbered that heretofore he could not venture to incur the expense of clearing them. On a fifth, he sells a day's work of his son and himself, his horse and wagon, not then required on the farm. On some of these occasions he carries back manure to return to his farm a portion of what he took from it, and the result at the close of the year is, that he has his iron paid for and that his farm is improved, and by the very process opened to him by the vicinity of the furnace, to a twice greater extent than the value of the iron itself. He has thus earned treble wages. He has received the price of the labor and his products once in iron, and twice in improvements of his farm. To all who desire to study this process, we would recommend that they should place themselves alongside of a little town growing by aid of concentration, and see if we have erred in our estimate of the advantages derived by the farmer from its proximity, unless indeed we have done so in under-estimating them, as we believe to be the case.

Let us now place ourselves alongside of the man who is distant hundreds or thousands of miles from furnaces and rolling-mills, and see how he pays for his iron. It is obvious that he cannot send potatoes, or hay, or milk, or turnips, or any other of the commodities of which the earth yields largely. He may send wheat, of which the yield is 600 or 800 pounds to the acre—or cotton, of which he obtains 200 or 300 pounds, but from them no manure is returned, and he exhausts his land. He cannot sell the day's labor of his son or himself, his wagon or his horses, all remain unemployed when not required on the farm. He has no market for his timber, and his best soils remain uncleared and unimproved. Nevertheless, the iron must be paid for, or he cannot have it. He sends the wheat, or the cotton produced on poor lands, and having exhausted them, he flies to other poor lands. He has the iron, but his farm is deteriorated to the whole extent of its value. He has been paid once where the other has been paid three times.

We may now inquire what is the quantity of land and labor required for paying for this ton of iron.

An acre of land, to which the manure is returned, may be made to yield 400 bushels



of potatoes, and half that product will pay for a ton of iron.

An acre of land may be made to yield two tons of hay, besides affording pasture for cows, whose milk, united with the hay, will almost pay for a ton of iron.

An acre of naturally good land will yield twenty bushels of wheat, but if the manure be regularly wasted on the road, it will fall to twelve or ten, as has been the case in New York and Ohio, and then it will require three or four acres to pay for a ton of iron. If the process be continued, it will in a little time take half dozen acres to do it, and in a little further time the land will be abandoned.

An acre of cotton land yields two hundred pounds, and a thousand pounds, the produce of five acres, will be required to pay for a ton of iron. If it be regularly exhausted, the time will arrive when it will require a dozen acres, and then the owner will fly from it, as he is now doing in South Carolina.

In the first case, the price of the iron is the use of half an acre of land and the labor bestowed thereon. In the second, that of an acre. In the third that of three or four, and in the last, five acres. The owners of the first and second give little land labor to obtain a large return. The third and fourth give much land and labor and obtain a small return. The former become rich and their sons and daughters marry and remain near them. The latter see their daughters remain unmarried, because all the young of the neighborhood fly to the west, and ultimately abandon their farms and fly to the west themselves.

The farmer and planter are the real paymasters for the iron, and it rests with themselves to determine how they will pay for it—whether by the mode that enriches them and their land, or that which impoverishes both. In 1842, they determined that it should be paid for in potatoes, and hay, and milk, and veal, and the result was that in 1847, there were made about 700,000 tons, worth in the various forms it was used, stoves, railroad bars, machinery, axes, ploughs, &c., at least \$100 per ton, or seventy millions of dollars, and making a market for almost that amount of bulky articles of food, the refuse of which went back upon the land. In 1846, they determined to try if it could be had cheaper elsewhere, the result of which is that much of it has now to be paid for in wheat and cotton, of which the earth yields little, and of that little obtaining nothing in return.

The quantities of iron paid for in 1847 was probably double what was paid for in 1843, and the amount paid was greater in the former year by at least thirty-five millions of dollars than in the latter, and yet the payment of this vast amount was unfelt. Why was it so? Simply because the major part of it was paid for in commodities of which the return to labor was large, potatoes, and milk, and hay, and a large portion in labor of men and horses, that would otherwise have been wasted, and in timber that would have been valueless—and because, with every step in this process the land was improved to a greater extent than the value of the iron itself. Were all the furnaces and rolling-mills created

within the last four years now be stopped, and the quantity produced at home to be reduced to 350,000 tons, the quantity imported to take its place would not, we believe, amount to 80,000 tons, and the payment for even that quantity would be seriously felt, because it would be made in commodities of which little is returned to the labor employed in cultivation, and its export tends to the exhaustion of the land.

It is impossible to avoid being struck with the wonderful increase in the consumption of commodities of every description as soon as they come to be manufactured at home, and the reason for that increase is, that every such manufacture feeds itself by finding employment for labor and for things that would otherwise be wasted, and a market for those things the productions of which enriches the farmer and his land at one and the same time. But a few years since, a gold pencil-case was a rarity not to be found in our principal cities, as we have had occasion to know from having ourselves made the search. Now, about 100,000 are made in a year in New York alone, in whose immediate vicinity live the farmers who send in a single day ninety tons of strawberries and milk to market. The pencil-makers help to make the market for the strawberries, and the farmer obtains hundreds of dollars from a single acre that would not have produced a dozen bushels of wheat but for the proximity of a market for its products, whence the manure could readily be returned.

We would now ask the farmer and planter, live where they may, to look around them, and see if their neighbors and themselves, their sons and daughters, or their hands, do not waste more time for want of a regular demand for labor throughout the year, than would convert into yarn all the cotton and wool of the neighborhood, and if they do not themselves lose more for want of aid in harvest than would pay for weaving it. We would next ask them to see if they do not waste more food than would feed the spinners and weavers, and then see if all that food would not be clear gain, as the persons who would be spinners and weavers must, and do, eat while engaged in doing nothing. Having done this, let them determine if the whole work of spinning and weaving would not be so much clear gain to them. Let them next see if they do not now waste more manure on the road, and at the distant markets, for want of a market at home, than would enrich the poor lands they now cultivate, and then let them determine how much more productive would be their labor if they could sell the timber which now covers their richest lands, remaining to this day unimproved because of the excessive size of that timber, and of the cost that would attend the work of its destruction. Let them then calculate the amount of taxes upon those now unproductive lands, and determine what would be their value if a market were provided on the ground for the hay, and milk, and butter, and veal, and beef they could yield, and that market supplied by men and women, and boys and girls, now often unemployed, but then employed in enab-

ing him to export cloth instead of wool, or cotton, or corn. Having done all this, they will satisfy themselves not only that the labor employed in the work of conversion is all clear gain, but that there is a further and great gain in the improvement of the machine given for the production of food and wool, more than equal to the whole labor employed in the work of conversion. The earth is the great machine—the one that improves with use, and improves most where most used, and therefore it is that the consumption of cotton and woolen cloths, and iron, and paper, and pencil cases, and all other articles of necessity and luxury, increases so rapidly when the work of conversion is performed at home.—It is the work that is twice blessed. "It blesses him that gives and him that takes." If we desire evidence of this, we need only look to those parts of the world in which a market is found on the land for the products of the land, and compare the neat and compare the neat and comfortable houses and beautiful farms of Belgium, or of Tuscany, with the squalid wretchedness and poverty of Poland or Southern Russia, which export cheap food to England—to that country which now keeps itself poor by comparison with what she might be, because she expels men and wealth and imports food, while neglecting her own agriculture and compelling the world to use her looms when they would prefer to use their own, consuming their food upon the spot on which it was produced.

To be Continued.

#### South Carolina Railroad. Their Condition and Prospects.

It appears that some of the stockholders of this company, were dissatisfied with the management of its directors and officers—and at the last annual meeting, February, 9th, 1848, they proposed a committee of investigation—in the following resolution, viz:

"1. Resolved, That a committee of five stockholders, none of whom shall be an officer or agent of the company, be appointed, whose duty it shall be to inspect the road, workshops, and other property of the company, and report the state and condition thereof. That the said committee shall have free access to the papers, journals, and records of the company, and of the board of directors, and shall make their report to an adjourned meeting of the stockholders, to be held on the first Tuesday of April next.

This committee held several meetings, and made, we presume, a thorough investigation of the condition of the road, its machinery and appendages, the result of which they give in a report dated May 2d, last—from which we make the following extracts viz: The committee appointed under resolutions passed February 8th, last, "have travelled over the entire length of the road and its branches, looking into its condition with as much care and minuteness as circumstances would allow, and submit the following as the result of their labors:

"The Road.—The condition of the road itself was a subject of anxious inquiry and examination, and your committee are satisfied that it is not such as its efficient and profitable working demands, and that there are many defects which require the application of



prompt and vigorous correctives. The force that is provided by the company for the repair of the road, and for keeping it up to a proper working condition, is abundantly sufficient for the purpose, and we regretted to perceive that it had not been judiciously and efficiently applied. It was evident to us that the road had suffered sensible deterioration in many places, and that repairs had been so long delayed, that to restore it at once to a healthy state, would entail a heavy expense upon the company. Where repairs have been made, and in the reconstruction of the road, there has manifestly been a great want of uniformity. No settled or regular system seems to have been adopted, and the evil consequences are everywhere apparent. The timber, both for the longitudinal rails and cross ties, has, in many instances, been selected with too little care, being of inferior quality, and insufficient, both as to size and strength, for the purposes to which it is applied. It must be borne in mind that the weight and velocity of the engines have been greatly increased since the road was first constructed, and that consequently all repairs should be made with direct reference to this fact. The greater the weight, and the quicker the speed, the more substantial should be the foundation; and no security can be looked for where this is neglected. Sufficient attention has not been bestowed on this subject, and the cross ties particularly are so small as to be unable to resist the pressure to sustain which, they should have been suitably adapted.

"The draining of the road, and keeping it free from the destructive influence of water, a matter of great importance to its preservation and solidity seems to your committee not to have been the subject of sufficient care; and in many places the bed of the road has been materially affected by the obstructions produced not only by waste matter which has been permitted to accumulate in the ditches, but also by old timber removed from the road and cast into them. This has already proved to be highly detrimental to the road, as in many places it yields under the pressure of the cars, occasioning a loss of power, and operating injuriously upon the machinery. Much of the wear and tear of the iron superstructure is caused by the want of a bed well drained, and affording a solid and substantial foundation.

"Too little regard seems to have been had to the proper adjustment of the rails, when it has been found necessary to make repairs. In many instances, the newly laid rails were found not to be in line, and such defects should be particularly guarded against, because they are not only fruitful sources of accident, but they tend, in a great degree, to increase the wear and tear of the iron rails, as well as of the cars and machinery. To this cause, among others, may be attributed the fact that the hospital is generally filled with engines requiring repair."

This is somewhat severe on those who have had the management, and if merited should cause a change in its direction.

The next extract relates to the depots, and is as follows, viz:

"Among the many matters which claimed the attention of the committee, there were none which seemed to them of higher importance than the permanent location of a suitable depot at the Charleston terminus of the road, and the erection of safe and convenient workshops. Columbia and Hamburg are well supplied in this particular, and the advantages resulting to the road are felt in all its operations. At Charleston, on the contrary, where there is a much larger amount of business, and where the necessity for adequate facilities for its transaction is far greater than at either of these points, the company has suffered much loss and inconvenience from an ill-arranged depot, with its unsuitable buildings and imperfect accommodations. Here is concentrated a large portion of the produce, not only of this and of the adjoining states, brought down by means of the road, but also a heavy amount of dry goods and merchandise of every description, sent day by day for upward transportation. It must be obvious to all how urgent is the necessity for a proper depository at so important a point, not only for the care and preservation of goods and produce while in charge of the company, but also in view of the immense saving of labor and expense which such an establishment must necessarily effect. The depot at present used in Mary street is altogether unequal to the demands even of an ordinary business, and is the source of frequent and well grounded complaints with the best customers of the road. Instances have occurred where goods have been returned, which were sent to the depot to be transported on the road, and which the company were unable to receive, because of the want of room, imposing on the merchant the additional charge of drayage to and from the depot, to say nothing of the inconvenience, and disappointment."

There is evidently much cause for complaint in relation to the condition—and we will add position—of the depot in Charleston. This has long been a subject of complaint, and, if we understand the subject, justly so; too; and we are the more surprised to find the following recommendation from an intelligent committee of business men. They say:

"In view of all the circumstances, the committee have come to the conclusion that measures should immediately be taken for the permanent location of the depot at the present terminus of the road in Mary street. The company already own a portion of the land, and it is only necessary to make some addition to afford ample room for the proper transaction of business. The objections to leased land appear to your committee to be insurmountable, and the land occupied for this purpose, should be held by the company absolutely and in fee simple. Commodious and substantial brick buildings, adapted to the safe, expeditious, and economical operations of the road, should be at once erected, and no period could be selected more propitious than the present, labor and materials both being procurable at the lowest rates."

The recommendation to erect "substantial brick buildings," "with ample yard room," is very well—but to have it done in "Mary street,"—from and to which every thing must be carted, through the sand,

in order to reach the shipping—instead of recommending the establishment of the depot on the water's edge—is surprising to us. Not a word is said in favor of a measure of such importance to the road, though some not very important matters are considered. Let the company do what they may, now, in relation to a depot, in Mary street—the time will come when they will be compelled to build another on the water's edge—therefore ordinary foresight would lead to that desirable result now.

The committee recommend the erection of suitable work shops—and so do we, most urgently, when a suitable location can be obtained; but we fear it will be difficult to obtain sufficient ground in Mary street, or even in Citadel square, to accommodate the increasing business, and the work shops, even if the latter place could be obtained—of the ground in Meeting street we are unable to speak; but one of the greatest errors committed by railroad companies in this country, has been in providing too little ground for depots. They have generally estimated for ground sufficient to accommodate two or three times the business anticipated the first year after opening the road—which has always proved too small a pattern—as may be seen in the case of three of the Boston roads, viz: the Lowell, Providence and Worcester—whose sanguine friends estimated that their aggregate number of passengers would be, when fairly in operation, 141,440 per annum—whereas the number actually carried by them, in the twelfth year after they were brought into use, was 1,570,466—or more than eleven times the number estimated by their most sanguine friends before their completion; so will it be with the South Carolina road, when Alabama and Tennessee shall have done as much as Georgia and South Carolina, in the construction of railroads—and therefore it is that we are surprised that this committee did not urge the erection of the depot on the water, as proposed last year, or the year before. We again say—and confidently—that it must, and will yet be done—therefore better now.

The committee speak thus in relation to the incline plane at Aiken, viz:

"Your committee feel that they should have but imperfectly performed the duties assigned them, had they not bestowed special and particular attention on the inclined plane at Aiken. This is an establishment, not only attended with great expense, but one that interposes a serious impediment to the regular and expeditious performance of the business of the road. The committee have been unable to learn with precision what is the annual cost of keeping up this plane, but enough has been ascertained to convince them that it is a heavy drain upon the income of the company, and that it ought by all means to be dispensed with.

"Among the more obvious items of expense attendant upon it, may be enumerated the following: a superintendent, eighteen laborers, a workshop, machinery for working the plane, a guard for the protection of the freight detained by this obstruction, a new rope every two or three years, a gang of laborers to remove the sand which accumulates at the foot of the plane after every hard rain, and which it is necessary to transport a mile with engines and cars; five locomotives at the head of the plain, to raise and lower the cars, and to carry the freight between the plane and Hamburg, which could be done by two, but for the existence of the plane; two mules,



with a hostler; and the keeping up a number of intersecting tracks, equal at least to an additional mile and a half of road. This, it must be recollected, constitutes but a portion of the expense; the greater part growing out of the delay and detention, necessarily incident to such an establishment.

With a view of ascertaining, with some degree of accuracy, the extent of delay occasioned by the inclined plane, the committee caused a statement to be kept, noting precisely the time of the departure and arrival of all the cars to and from Charleston, Hamburg, and Columbia, from the 1st of March to the 31st, inclusive. This statement was kept in Charleston, by that most efficient and valuable officer, the chief agent, Mr. John King, and may be relied on with entire confidence.

From this it appears, that a train leaving Charleston for Columbia, will, on an average, perform the trip in 28 hours and 10 minutes, while a train from Charleston to Hamburg will occupy 32 hours and 52 minutes, making a difference in favor of the Columbia trip of 4 hours and 43 minutes.

But the disparity in the downward trips is immeasurably greater. From the same table it appears that a train from Columbia to Charleston, will consume 33 hours and 37 minutes, while one from Hamburg to the same point, will occupy 53 hours and 14 minutes, leaving a difference of 19 hours and 37 minutes.

It must be here observed, that though there is in fact a difference of six miles in the length of the two roads, that is to say, Columbia being distant from Charleston 130 miles, and Hamburg 136, yet that the regulations requiring the cars to pass over the trestle work across the Congaree swamp at a diminished speed, removes this inequality, and the passages should be accomplished in the same time, except so far as the inclined plane would make a difference. Thus it will be seen that there is a loss of time amounting to 16 per cent. against the trips to Hamburg, and 60 per cent. against those from Hamburg to Charleston, as compared with the trips between Columbia and Charleston. This difference the committee are compelled to attribute to the difficulties and delay occasioned by the inclined plane, and they think this is more clearly established by the fact, that the principal loss of time is incurred by the trains which leave Hamburg for Charleston. The period selected for this comparative test, was the month of March, when there was by no means a press of business, or any other cause existing to occasion unusual detention.

Another very serious evil arising from the inclined plane, is felt in the delay and confusion produced at the depot at Charleston, by the separation of consignments which takes place at Aiken. This we will attempt to illustrate. A train of 20 cars are loaded at Hamburg, and two or more of these contain the produce of one planter, consigned to his factor in Charleston. They all arrive together at the foot of the plane, but in the confusion incident to the hurry of business, and the difficulty of getting them on the pro-

per track, (which can only be understood by those who have witnessed the operation) one of these very cars is separated from the rest, and is delivered to a different train, coming down. The trains arrive separately, at different periods, and are discharged at different parts of the yard at Charleston. The consignee calls for his consignment, and is only enabled after a long and laborious search to find it, portions at a time, in different parts of the yard, and frequently under heavy piles of produce, which, from want of room, have been thrown upon it. This is a serious annoyance to the merchant, a vexatious embarrassment to the agent, and a source of heavy expenditure to the company, a great part of which is justly chargeable to the plane at Aiken.

The divided responsibility which this system involves is, in the view of your committee, another of the evils growing out of the inclined plane. The conductors are obliged to transfer the one to the other along the line of road, and by the time that goods arrive at the point of destination, either at Charleston or Hamburg, they have passed through so many hands, that it is by no means an easy matter to fix the responsibility when loss occurs.

The risk encountered by the large accumulation of goods and produce necessarily detained at Aiken by this obstruction, is also a matter for grave consideration. It is fresh within the recollection of all, that cotton and cars to the amount of \$10,000 were a few years ago destroyed by fire at the head of the plane, for which the company were responsible; and there is no security against the recurrence of similar disasters. So long as this establishment is continued, merchandise and produce must be liable to detention and exposure, and the company must encounter all the hazards, great as they are, resulting from such causes.

From these facts it must be evident that sound policy, as well as economy, demands that the inclined plane should be dispensed with, as soon as the company are in a condition to lay down a continuous track. Even if it be admitted, that by extraordinary exertions and at great additional expense, the company are at present enabled to pass the business of the road at this point, yet it is certain that the difficulty of doing so must have the effect of preventing any material increase of that business while this obstacle is permitted to remain; and when the contemplated connection with the fertile valleys of the Tennessee and Cumberland rivers shall have been effected, it will be utterly impracticable to accommodate the additional business that may be expected from these sources.

The committee feel it to be a solemn duty to urge upon the stockholders the removal of such an obstacle to the present and future prosperity of the road, and to express the opinion, deliberately formed from a careful examination of the subject in all its aspects, that it is utterly vain to expect any considerable improvement in the operations of the line until we imitate the policy which experience and progressive knowledge have dic-

tated to other roads, of dispensing with inclined planes wherever practicable, whether managed by stationary power or otherwise.

We give their remarks entire upon this important subject, and agree fully with them that it is better always to avoid planes, if it can be done without a greater sacrifice. But what constitutes a greater sacrifice, is a question upon which there are different opinions—as will be seen by the remarks, evidently, of a practical and intelligent man, though his name is not given—which will appear in our next number, in connection with the remainder of this article—after having kept them a long time on our table.

The subject is an important one, and we shall be pleased to hear from others of the profession on the subject—as we know there is, even at this late day, quite a difference of opinion on the subject.

In speaking of the Camden branch, they say:

The committee passed over that portion of the Camden branch which was completed at the time of their examination, and would submit to your consideration one or two remarks in regard to its construction. The method which has been adopted and pursued in that construction, they cannot but regard as highly objectionable. Longitudinal timbers, hitherto considered as indispensable in such structures, have been entirely dispensed with, and the cross ties, instead of resting on parallel sills, disposed lengthwise on the road, are made to lie on the bed of the road, with no other foundation than that afforded by the earth itself. [These remarks are intended to apply to that part of the road beginning at the trestle work beyond the river, leading to Camden, and now in progress of construction.] It will at once be perceived that one of the principal supports to these ties is omitted under this plan, and that they must the more readily yield to the pressure from above, and sink into the ground, particularly on the embankments, where the foundation is necessarily less firm and compact, and which must be in progress of settling for a period of several years.

#### Petersburg Railroad Report for 1847.

We referred, in No. 32 of this Journal, to the report of this company, showing a very favorable state of its affairs. We now give the report entire, so far as it relates to the business of the company, omitting what relates to the controversy with another company.

From this report we find a prosperous and improving state of business, and trust that the good old town of Petersburg shares fully in this improvement.

If the people of Petersburg were alive to their own interest, they would, it seems to us, make an effort to induce the people on the line, and at Lynchburg, to build a railroad direct to Lynchburg—thus drawing the business from the west to themselves, since the people of Richmond do not move in the matter. A railroad to Lynchburg, and thence to the Ohio river, would be of much more importance to Petersburg than the one now in use south, as the former would bring both freight and passengers, to an immense amount, from which Petersburg would derive great benefit. We have seen no indication of such a contemplated movement; but have read with deep interest the letter of Mr. Maury, in relation to the connection of the Ohio with Norfolk, making that old city the depot, and shipping port, for a large section of country lying west, and south-west of it.







**Prospects of the Iron Trade in England.**

The following article, though published in London nearly two months ago, is as true now as when it was written, and it is in accordance with our own views. The iron trade must improve, and therefore we give it a place in the Journal, even at this late day.

At this time of temporary depression in this great staple of the country, it may not be out of place to say a few words as to the present position and prospects of the trade. The depression has undoubtedly arisen from the pressure upon the money market during the last and early part of this year. It affected the iron interest only after all other interests were prostrated by it; and I feel assured, as I believe the reader will, upon the following data, that it is but a passing cloud, of momentary indurance. The manner in which the money crisis has acted upon the iron interest, has been by causing the railroad companies to delay their orders for rails. They, suffering in common with the rest, applied all the moneys they could collect by calls and loan to the earthwork and formation of their lines, leaving the rails, the last thing required, to be ordered at the last moment when their resources were greater. Hence orders fell off, and depression of prices ensued. That this, however, cannot last long, and that the delay will tend to run up prices at a future period, I shall proceed to show as briefly as I can, by discussing that all important question in political economy—that of supply and demand. Before, however, proceeding to figures, I may aptly quote a great authority, Mr. McCulloch, upon the subject. That gentleman observes, in the last edition of his work (article, iron, p. 783) that "if only half the railway projects now (1847) on foot be executed, the production of iron, vast as at present it is, will be quite inadequate to supply the demand."

This opinion of Mr. McCulloch's is demonstrated not to be overcharged, by considering the data upon which it may be supported. The following summary of the number of miles of railway actually sanctioned here and abroad will speak for itself. There was passed in 1844 and 1845, acts for 3543 miles of railroad—capital £78,471,000 (see Sir R. Peel's speech, April 24, 1846); and in 1846 for above 4,000 miles (see parliamentary return); while abroad there were constructing in 1845 (the greater portion is still unfinished,) 10,381 miles, viz: France, 2410 miles; Germany, 2347 miles; and in America, 5,624 miles, (see parliamentary return, Nov. 1845); consequently, there are, at home and abroad, above 17,000 miles of railroad in the course of construction at the present moment, the rails and iron work for which have still to be ordered—very little of it having been as yet provided. Assuming that the home railways alone are to be looked to as regards the home market, we have above 7000 miles of railway, which will require, at 500 tons per mile, a moderate estimate, 3,500,000 tons of iron, certainly within the next four or five years. Where this iron is to come from it is impossible to conceive, as the ordinary make is not, in consequence of the great applica-

tion of iron to the purposes of construction, much above the ordinary demand, and not at all equal to the extraordinary demand of this gigantic proportion; especially when it comes as it will come, from the order being delayed, upon the market all at once. Looking to these facts and figures, which admit of no denial, and to the other signs of the times—to the amount of calls in this country which, during the whole of 1847 and this year, have averaged more than £3,000,000 a month—showing conclusively that, notwithstanding the late pressure upon the money market, the railways have been advancing as rapidly as the resources of the country will allow, toward that state "when they must have rails"—the only conclusion to be arrived at is, that the present depression in the iron trade is but a passing shadow, and that prices must shortly range at a figure even higher than between 1830 and 1840, when pig-iron was at 7½ and 8½ per ton; for, in the words of Mr. McCulloch, "the production of iron, vast as it is at present, will be quite inadequate to supply the demand."

**Pile Driving—Improved Machinery for.**

The following account of Clarke and Varley's improved pile driver may be interesting to some of our readers, but we doubt its superiority over the American steam pile driver.

During the past few years many suggestions have been laid before the public for pile driving apparatus, which shall combine greater rapidity of action than by the tedious and slow operation of the monkey and crab of the old pile engine; and at the same time be far more effective, with greater economy. Of these, Nasmyth's direct action steam pile machine is doubtless the most powerful; but it is at the same time costly, and the tackle necessary for removing the engine from pile to pile cumbersome, which confines its employment to very extensive works, and where large capital is at command. Dr. Pot's pneumatic plan is excellent, but not applicable to all descriptions of ground. Many other attempts have been made to adapt pneumatic power to pile driving, but hitherto, we believe, ineffectually, until Messrs. Clarke and Varley, in their experiments on atmospheric pressure to railways, and other mechanical processes, have at length matured an atmospheric pile engine, which has been at work during the week in driving the piles for the new wharf on the site of the late fire near St. Katherine's stairs, Tower hill, has proved completely successful, and of which we will now proceed to give a description. A small steam engine has been erected on terre firma, working horizontally, with a 10 inch cylinder, and 18 inch stroke, connected immediately in gear with an air pump 20 inches diameter. From this a tube proceeds to the pile engine, between the lower part of the frame of which is placed another air cylinder and piston, with 30 inch stroke. The piston rod is attached to a chain passing over a pulley on the top of the frame, the end of which supports another pulley, through the sheave of which passes another chain, one end being attached to the rammer, weighing

20 cwt., and the other passing under the bottom of the frame, and attached to the head of the pile. The steam engine to work, the air pump is kept in constant action, and rapidly exhausts the pile cylinder, below the piston; the air is then admitted under the piston, when the rammer falls by its own weight, raising the piston at the same time, ready for the next exhaustion; the descent of which raises the floating pulley and rammer, giving a succession of short heavy blows, rapid, of course, in proportion to the number of strokes per minute of the engine; and as, by the arrangement of the pulleys, the distance between the pile head and the face of the rammer is always the same, a regularity of action is obtained, quite unknown in the old pile driver; the injurious concussion and rebound of the hammer, consequent from great height of fall avoided, the pile much more firmly imbedded in the soil, and the rammer being permanently fastened to the chain, no time is lost for reattachment after every blow. The connection between the air pump and pile cylinder is formed by a series of cylindrical galvanised iron tubes, 1.18th of an inch in thickness, in 20 feet lengths, 3 inches diameter, united by flexible joints, forming a chain of tubing, by which, during the progress of a work of any length of river wall, the engine and pump will do their duty efficiently, without removal from the spot on which they are first erected. The working of the apparatus was perfectly successful, being most satisfactory to the proprietor, and, of course, highly gratifying to the patentees, who, having now proved the correctness of the atmospheric principle as applied to one branch of mechanics, we hope will be fortunate enough to get an early opportunity of establishing that more important one—the elastic tube railway—by having to lay down a working line, if of only short dimensions, and which would prove most decidedly the correctness, or otherwise, of the system of atmospheric traction.

**Compressed Air Locomotives.**

This new mode of propulsion seems to be attracting some attention in England—we therefore give the following letter on the subject.

**Experimental Trial of the Machinery of Baron Von Rathen's Patent.**—Sir: You have on several occasions directed attention to the construction of an experimental carriage, at the college of civil engineers, at Putney, which is to be propelled by compressed air, carried along with the trains, upon the locomotives and tenders from station to station, such stations being erected at convenient distances of from 10 to 12 miles. You have also published an extract from the works of Dr. Crella, of Berlin, in which that gentleman has endeavored to show, that, of all the different systems now known, compressed air locomotion is the only one which is more economical than steam. Dr. Crella is considered a great authority in these matters; and he declares this system to be the best in every degree; consequently, we cannot doubt that a report on the trials witnessed on Tuesday and Wednesday last, at Putney, will be found of some interest to your readers.



The compressed air pumps, of capacities diminishing from the higher pressure in an equal ratio, were worked by a steam engine. The pumps were immersed in a water vessel so as to absorb the heat evolved by compressing the air—a method which we regret has never been applied, on atmospheric railways to the pumps for rarifying the air in the main tube. A reservoir, composed of cylinders of small diameters, similar to gas bottles, was filled, on the first day, to 30 atmospheres, and yesterday to upwards of 40 atmospheres, viz: 600 pounds to the square inch. The cylinders of the reservoir appeared well prepared, and calculated to support this high pressure; and yet an uniform working power was obtained by the action of the moderator (regulator of expansion), equal to only two atmospheres by the moderator, or 15 pounds effective, to the square inch; by which the machinery, driving wheels, with endless chain, etc., were put into regular motion, at 60 strokes per minute.

On Wednesday the motion was regulated up to 120 strokes per minute, and the same regularity obtained.

An apparatus, invented by Baron Von Reithen, for reducing the heat of the compressed air in the act of expansion, worked extremely well. Without at all holding out this merely experimental carriage as a pattern, which it never was intended to be, our opinion is that it proves clearly and practically that the invention, for all practical purposes, is now completed; and the great difficulties, in compressing the air to high degrees, and in using it expansively, the uniform working power, at low degrees—which prohibited till now the application of this elastic power as a substitute for steam—are totally overcome. We must confess that we should hail it as a new era in locomotion, were fire and steam, so dangerous to be carried along through fields and towns, to be replaced by this agreeable and safe power.

And, although we may not follow the minute calculations of Dr. Crelle, to demonstrate that compressed air locomotives possess over steam locomotives also the advantage of economy, we feel, nevertheless, inclined to believe, that if compressed air for 10 locomotives was produced, or obtained, in fixed stations, by a single steam engine, provided with all known improvements in furnaces and boilers, only applicable in stationary machines, the propelling power, compressed air, thus fabricated as it were wholesale, cannot be at all so costly as were the propelling power, steam, for 10 locomotives were obtained by 10 separate steam engines, each placed on a separate locomotive, and where heat and fuel are sacrificed to velocity. We cannot doubt that, with the same fuel consumed by those 10 locomotive engines, much more than four times the steam power could have been created by a single stationary engine; and it is a well known fact, that the effective power in locomotives is less than one fourth part of that obtained in the boiler.

We are not afraid to recommend to your readers an inspection of these interesting experiments, and the beautiful and interesting

College at Putney; to which we are sure, by a note addressed to the above-named patentee, at Putney, or to the very liberal principal of that excellent institution for the education of scientific practical engineers—the Rev. Morgan Cowie—admission will be easily obtained.

We hear that, in the course of this month, the carriage will be covered, and ready for trial on the common roads; when we shall take occasion to forward you further information.

G. S. DE WITTE: HILLON DE GRANDCOEUR,  
London, July 6.

#### Indian Rubber Car Springs.

We have, on several occasions, called attention to this kind of springs. They are in use, both in England and in this country, and so far as we are informed, they give satisfaction not only in relation to action, but also as to cost and durability.

We published in our last number, the testimony of the president, engineer and superintendent of machinery of the Boston and Worcester road in favor of them, and we now give a lithographic illustration of them, in all their applications, which will enable those who desire to do so, to understand their application.

They are to be had of the New England car company Boston, or of Mr. Rider Liberty street, and of F. M. Ray, 100 Broadway, New York. The following is a description of the drawings:

Fig. 1.—Represents a side elevation of a railroad track, showing Mr. Ray's mode of applying his rubber springs to the bolster, and the manner, as heretofore done, of applying these springs to the journal boxes of the axles.

Fig. 2.—Represents an end elevation of the same, showing more clearly the application of these springs to the bolster, by which it will be seen that the bolster may have a lateral movement upon the links sustaining the lower bar of the bolster upon which the springs rest, but are kept from being too sensitive, by the stiffening and binding effect of the middle cross bar.

Fig. 3.—Represents a longitudinal cross section of a journal spring, without pressure upon it; showing the spiral metallic spring, placed within the column of rubber and enclosing the bolt to prevent chafing; it also shows that grooves are sunk at the outside, in the column of rubber to admit the bands of iron, and to keep the same in place when the spring is not under pressure.

Fig. 4.—Represents a like section of the same spring (fig. 3) when under the action of three tons pressure—showing the use of the iron bands in keeping the column of rubber from bagging out—the tendency to bag being reduced by as many as there are bands on the column.

Fig. 5.—Represents a like section, showing a bolster spring—under pressure.

Fig. 6 & 7.—Represent double and triple springs, for locomotives and tenders.

Fig. 8.—Represents the form of the wrought iron carrier at the bottom of the bolster.

Fig. 9 & 10.—Represents a top and side view of a drawing and buffing spring combined.

Fig. 11 & 12.—Represents a section of fig. 1 and 2, showing an improved mode of applying journal springs, in which the sustaining bolts of the springs, and the upholding studs or pillars of the same, are in reversed order, and by which this part of the truck is more easily taken apart, and the bearings of upholding pillars are better placed upon the journal boxes of the axles.

It will be seen that the above figures are drawn upon the scale of 1 inch to 1 foot. The following figures are drawn upon the scale of 3 inches to 1 foot.

We expect to have a sample of them at our office soon, and shall be pleased to show them to those who may desire to examine them.

#### ENGLISH RAILWAY STATISTICS.

For 1846, 1847 and 1848.—By Hyde Clarke, Esq.

Continued from page 588.

#### No. II.—Cattle Traffic.

The last parliamentary returns are still more defective than their predecessors, so that it is necessary to estimate some of the numbers.

The following shows the number of cattle carried in the year ending 1st July, 1846:

Name	Cattle	Sheep	Swine
Androsan	467	3,826	306
Chester and Birkenhead	7,508	5,461	740
Dublin and Drogheda	429	1,186	3,636
Dundee and Arbroath	351	58	86
Eastern Co.—Cambridge	36,238	106,055	2,613
Colchester	17,134	89,211	11,190
Glasgow and Greenock	640	1,492	—
Glasgow and Ayr	2,136	6,567	1,424
Great North of England	27,625	32,466	5,305
Great Western	20,389	165,860	53,702
London and Birmingham	55,017	232,058	120,461
Grand Junction	41,595	45,742	337,626
London and Brighton	1,079	16,785	962
London and S. Western	6,390	62,454	5,412
Manchester and Leeds	10,448	66,029	40,346
Maryport and Carlisle	239	575	609
Midland	22,000	15,000	129,000
(Estimated.)			
Birmingham and Bristol	2,641	5,274	26,044
Newcastle and Carlisle	11,009	49,263	8,291
Newcastle & Darlington	16,521	36,505	3,276
Newcastle and N. Shields	2,874	30,894	599
North Union	5,996	25,679	7,796
Norfolk	24,432	21,509	627
Preston and Wyr.	903	3,726	13,899
Manchester and Sheffield	416	30,030	6,240
South Eastern	3,892	48,354	5,224
Stockton and Darlington	1,316	2,649	390
Stockton and Hartlepool	303	860	420
Ulster	999	878	27,388
Whitehaven	15	19	—
Yorkland North Midland	37,667	62,249	4,944
Hull and Selby	2,663	49,734	1,311
Total	360,314	1,209,447	813,967

As the returns are incomplete, this does not show the whole number of cattle, which will be as follows:

Cattle	370,000
Sheep	1,250,000
Swine	850,000
Total	2,470,000

This shows an increase of 25 per ct. over the animals carried in 1845.

The number of calves carried in 1846 was as follows:

Chester and Birkenhead	6,288
Maryport and Carlisle	1,372
North Union	106

In other returns they are not distinguished. The amount of revenue derived from cattle traffic was in 1846 as follows:



Name.	Cattle.	Sheep.	Swine.	Tot.
Ardrossan.....	£30	£20	£6	£56
Chester and Birkenhead..	237	45	12	294
Dublin and Drogheda....	95	57	180	332
Dundee and Arbroath....	28	1	1	30
East Counties—Camb..	9,864	3,693	178	13,735
" Colches.	2,997	2,454	239	5,690
Glasgow and Greenock....	98	24	—	122
Glasgow and Ayr.....	213	135	14	362
Great North of England..	—	—	—	4,591
Great Western.....	7,106	7,460	2,965	17,531
London & Birmingham..	11,715	8,817	6,161	26,693
Grand Junction.....	9,126	4,000	22,365	35,491
Manch. & Birmingham..	—	—	—	336
London and Brighton....	302	584	100	986
London and S. Western..	1,251	2,083	479	3,813
Manchester and Leeds....	750	1,159	1,630	3,739
Maryport and Carlisle..	20	10	10	41
Midland.....	—	—	—	8,960
Birmingham and Bristol	352	151	906	1,429
Newcastle and Carlisle..	1,158	1,101	230	2,489
Newcastle & Darlington	—	—	—	2,339
Newcastle & N. Shields.	107	193	7	307
North Union.....	—	—	—	20,919
Norfolk.....	3,072	458	16	3,556
Preston and Wyr.....	74	26	86	186
Manchester and Sheffield	—	—	—	1,420
South Eastern.....	—	—	—	3,079
Stockton and Darlington	87	32	4	123
Stockton and Hartlepool	16	8	4	28
Ulster.....	131	21	448	600
York and North Midland	2,360	1,708	240	4,308
Hull and Selby.....	793	1,491	32	2,226
Total.....				£167,201

On account of the very imperfect state of the returns, it is impossible to give the proportion paid in 1846 under each head of cattle traffic. In 1845, the proportions were—

Cattle.....	£30,000
Sheep.....	26,000
Swine.....	30,000

The proportion for cattle must now be larger, and that for swine smaller.

In 1847 the number of cattle carried by each company was as follows:

Ardrossan.....	820	332	760
Chester and Birkenhead..	1,688	6,562	1,065
Dublin and Drogheda....	680	1,794	4,338
Dundee and Arbroath....	325	32	6
Eastern Co.—Cambridge..	14,792	252,680	10,480
" Colchester..	20,722	107,693	26,076
Eastern Union.....	6,681	19,151	2,420
Ipswich and Bury.....	1,408	4,848	749
East Lancashire.....	287	2,290	40
Furness.....	3	42	—
Glasgow and Greenock....	698	497	—
Glasgow and Ayr.....	1,759	5,137	332
Great Southern & West..	5,053	14,830	15,846
Great Western.....	28,231	201,833	14,360
Kendal and Windermere..	108	1,814	73
Lancashire and Yorkshire	—	—	—
(M. & L.).....	22,429	75,011	20,733
London and N. Western..	161,171	399,998	150,674
London and Brighton....	2,617	28,858	3,018
Londonderry & Enniskillen	28	108	47
London and S. Western..	13,565	75,365	3,462
Manch. and Sheffield....	6,000	5,000	10,000
Maryport and Carlisle..	924	615	2,932
Midland.....	30,000	150,000	30,000
Bristol and Birmingham..	3,526	12,771	10,684
Middlesboro' and Redcar.	251	525	7
Newcastle and Carlisle..	14,599	66,628	9,759
Newcastle and Berwick..	1,908	32,224	597
North Union.....	6,998	31,185	7,411
Norfolk.....	38,888	85,249	8,634
Preston and Wyr.....	2,245	3,788	6,169
South Eastern.....	7,096	47,167	2,537
Stockton and Darlington.	1,878	2,121	258
Shrewsbury and Chester.	336	1,369	56
South Devon.....	292	109	6
Stockton and Hartlepool.	698	2,367	592
Ulster.....	1,273	3,818	13,360
Whitehaven.....	34	85	—
York and Newcastle....	41,399	88,287	9,142
York and North Midland.	41,931	84,656	7,014
Total.....	443,291	1,995,354	372,987

\* Estimated amount.

The whole number of cattle in 1847 will therefore be as follows, allowing for the incompleteness of the returns:

Cattle.....	500,000
Sheep.....	2,000,000
Swine.....	390,000
Total.....	2,890,000

Making nearly three million head of stock. The falling off in swine arose from the Irish famine.

The number of calves carried in 1847 was as follows:

Chester and Birkenhead.....	6,534
London and South Western.....	9,222
Maryport and Carlisle.....	65
South Eastern.....	1,063
South Devon.....	217

The amount of revenue derived from cattle traffic was in 1847 as follows:

Name.	Cattle.	Sheep.	Swine.	Tot.
Ardrossan.....	£6	£1	£2	£9
Chester and Birkenhead..	257	54	20	331
Dublin and Drogheda....	132	65	123	317
Dundee and Arbroath....	28	—	—	29
East. Co.—Cambridge..	15,112	9,656	296	25,064
" Colchester..	2,949	2,710	434	6,093
Eastern Union.....	444	158	30	632
Ipswich and Bury.....	103	46	15	163
East Lancashire.....	11	13	1	25
Glasgow and Greenock....	92	21	—	113
Glasgow and Ayr.....	223	128	23	273
Great Southern & West..	764	584	455	1,803
Great Western.....	7,864	9,021	776	17,661
Kendal & Windermere..	1	5	—	6
Lancaster and Carlisle..	595	875	—	1,470
Lancashire and Yorksh..	2,192	1,276	844	5,312
London & N. Western..	25,435	16,622	17,223	59,280
London and Brighton....	657	880	200	1,737
London and S. Western..	1,808	2,204	138	4,150
Londonderry and Enniskillen	3	2	1	6
Manchester & Sheffield..	—	—	—	3,036
Maryport and Carlisle..	71	10	25	106
Midland.....	—	—	—	10,270
Bristol and Birmingham..	434	380	390	1,243
Middlesboro' & Redcar.	9	3	—	12
Newcastle and Carlisle..	1,323	1,306	273	2,902
Newcastle and Berwick..	71	204	9	284
North Union.....	—	—	—	15,531
Norfolk.....	—	—	—	6,598
North British.....	—	—	—	757
Preston and Wyr.....	170	38	42	250
South Eastern.....	—	—	—	3,334
Stockton and Darlington	129	31	3	163
Shrewsbury & Chester..	19	20	1	40
South Devon.....	11	2	—	13
Stockton and Hartlepool	31	25	6	62
Ulster.....	172	92	237	501
Whitehaven.....	2	—	—	2
York and Newcastle....	4,255	3,925	286	8,466
York and N. Midland..	2,320	2,068	1,068	5,456
Total.....				£183,400

The total receipts for cattle traffic in each year were as follows:

1845.....	£102,000
1846.....	167,200
1847.....	183,400

The great advance in cattle traffic was made in 1846; but the progress was not so great in 1847, as there was a positive falling off in the number of swine carried. The greatest increase is in the conveyance of fat stock and sheep.

The following are the proportions of cattle carried in each year:

Cattle.	Sheep.	Swine.
1845.....	236,000	1,200,000
1846.....	370,000	1,250,000
1847.....	500,000	2,000,000

The cattle carried to the London market in 1847, may be reckoned as follows:

Name.	Cattle.	Sheep.	Swine.
London and North Western..	65,000	200,000	55,000
Great Western.....	26,000	150,000	10,000
South Western.....	12,000	75,000	2,000
South Eastern.....	7,000	40,000	2,500
Eastern Counties—Cambridge	10,000	200,000	10,000
" Colchester..	15,000	75,000	20,000
Brighton.....	2,500	25,000	3,000
Total.....	132,500	765,000	103,500

The number of cattle sold in Smithfield in 1846 was 213,525, and of sheep 1,527,220, so that the railways must have engrossed a considerable part of the cattle traffic. For the conveyance of cattle to the London market the railway companies receive at least £75,000.

Great reductions have been made in the charges for the conveyance of cattle since 1845. The charges are as follows:

Name.	Cattle.	Sheep.	Sw.
London and North Western, 1845..	1,020	160	160
" 1847..	626	135	145
Eastern Counties—Cambridge, 1845..	980	200	400
" 1847..	943	143	107
" Colchester, 1845..	980	200	400
" 1847..	890	153	173
Great Western.....	1,530	156	188
" 1847..	819	156	188
York and North Midland.....	500	200	500
" 1847..	500	200	500
Lancashire and Yorkshire.....	870	250	250
" 1847..	766	177	373
London and South Western.....	1,750	200	500
" 1847..	1,460	160	190

No reduction has taken place on the York and North Midland railway, because the rates were already low.

The largest cattle traffics in 1846 were as follows:

Name.	Cattle.	Sheep.	Swine.
London and North Western..	96,612	277,800	358,087
Eastern Counties—Norfolk and Eastern Union.....	77,904	216,775	14,430
Great Western.....	20,389	165,860	53,702
York and North Midland & Hull and Selby.....	40,319	109,992	5,225
Great North of England..	97,625	32,466	3,300
Lancashire and Yorkshire..	10,448	66,029	40,346
South Western.....	6,390	62,454	5,413
North Union.....	5,996	25,679	7,796
Newcastle and Carlisle....	11,009	49,263	8,291
South Eastern.....	3,892	48,344	5,224
Newcastle and Darlington..	16,591	36,505	3,376
Manchester and Sheffield..	416	30,030	6,240

The gross amounts received in 1846 for cattle traffic range as follows:

London and North Western.....	£268,820
Eastern Counties, etc.....	28,971
North Union.....	20,919
Great Western.....	17,531
Midland.....	8,960
York and North Midland, etc..	8,594
Great North of England.....	4,591
London and South Western.....	3,813
Lancashire and Yorkshire.....	3,739
South Eastern.....	3,079

The largest cattle traffics in 1847 were as follows:

Name.	Cattle.	Sheep.	Swine.
London & North Western..	161,171	399,998	150,674
Eastern Counties.....	82,491	469,731	43,357
Great Western.....	28,231	201,901	14,360
York and North Midland..	41,931	84,656	7,014
York and Newcastle....	41,399	88,287	9,142
Lancashire and Yorkshire	—	—	—
(M. & L.).....	22,449	75,011	20,733
South Western.....	13,565	75,365	3,462
Newcastle and Carlisle....	14,599	66,628	9,759
North Union.....	5,996	25,679	7,796
South Eastern.....	3,592	48,344	5,224
London and Brighton....	2,617	28,858	3,018
Newcastle and Berwick..	1,908	32,224	597



The following will show the progress of the cattle traffic of the principal companies:

	Cattle.	Sheep.	Swine.
1845.....	61,466	929,945	315,989
1846.....	98,612	377,800	358,087
1847.....	161,171	399,993	150,674
Eastern Counties.....			
1845.....	20,661	125,564	4,223
1846.....	77,804	216,775	14,430
1847.....	82,491	469,721	48,359
Great Western.....			
1845.....	14,058	172,264	52,443
1846.....	20,369	165,860	53,702
1847.....	23,331	201,901	14,360
York and North Midland.....			
1845.....	15,364	88,143	31,708
1846.....	40,319	109,992	5,255
1847.....	41,931	84,656	7,014
York and Newcastle.....			
1845.....	19,685	20,000	5,000
1846.....	44,146	68,971	5,531
1847.....	41,399	88,287	9,142
Lancashire and Yorkshire.....			
1845.....	9,686	149,023	27,485
1846.....	10,448	66,029	40,346
1847.....	22,449	75,011	20,733
South Western.....			
1845.....	2,763	53,441	3,089
1846.....	6,390	62,454	5,412
1847.....	13,565	75,365	3,462
Newcastle and Carlisle.....			
1845.....	3,782	37,525	5,116
1846.....	11,009	49,263	8,291
1847.....	14,599	66,628	9,759

The Belgian cattle traffic from the returns was as follows:

	Cattle.	Sheep & Swine.
1843.....	8,609	33,562
1844.....	12,691	39,056
1845.....	7,597	29,704

Taking the saving by conveyance of cattle on railways at 10 lbs. per quarter, 2 lbs. for sheep, and 5 lbs. for swine; or 40 lbs. per beast, 8 lbs. for sheep, and 20 lbs. for swine, the gross saving in 1846 will be—

On 370,000 cattle,	14,800,000
1,250,000 sheep,	10,000,000
850,000 swine,	17,000,000
Total,	41,800,000 lbs.

The gross saving of animal food on the cattle conveyed by railway in 1847 was as follows:

On 500,000 cattle,	20,000,000
2,000,000 sheep,	16,000,000
390,000 swine,	7,800,000
Total,	43,800,000

In the late report on Smithfield market, some evidence is given bearing on the question of the conveyance of cattle by railway.

Mr. R. Healy said that there is a much greater quantity of dead meat brought to the London markets in consequence of railway communication. By means of the railways, great quantities of hind quarters of mutton are sent up from the country, as the butchers there kill large quantities of sheep and sell the fore quarters at home among the population there, and send the hind quarters by railways to London.

Mr. Langham, a butcher, said that country killed meat is better than town killed meat, and that it comes in excellent condition from Scotland. It is the general opinion of butchers that this is the case.

Mr. Hicks, the salesman, said that he has a very large quantity of meat sent up from the country by railway, and that it is not damaged by the journey even in hot weather.

He has used the electric telegraph to obtain a supply of meat from the country. A communication was sent the same night by the country grazier that he would send up 600 or 700 stone of meat by the next morning's train. At 1 o'clock in the morning it started from Ipswich, and before 5 o'clock it was in his premises in Newgate market on sale, having been alive the day before. Mr. Hicks has sometimes 300 carcasses on a Monday.

Mr. Langham likewise stated, that since the railways have been opened, a country trade in meat has been growing up. Beasts have been sent from Smithfield to Liverpool, and he has seen immense quantities of meat going down to Birmingham. The south country is also supplied from the London market with beef—Brighton in particular. The Brighton butchers are frequently seen in Smithfield purchasing cattle, which they take down with them the same day. Sometimes as many as 300 or 400 beasts have gone down by the Birmingham railway on a Monday.

These facts will show the nature of cattle traffic on railways.

#### RAILROAD IRON—SHEET IRON—BRASIER'S RODS—HOOPS—SCROLL—BANK'S BEST—& OTHER GOOD MAKES OF ENGLISH IRON.

100 Tons Railroad Iron—Staffordshire make—56 pounds per yard—shipped from Liverpool 20th July; expected to land on wharf from 10th to 20th September.

Also have Invoices of Sheet Iron, Brasier's Rods, Hoops, Scroll, and Band Iron, Banks best, and other good makes of English Rolled Iron, to arrive, suitable for Railroad Axles, etc., etc., equal in quality to American Rolled Iron. I have agency of several best makers in England and Wales, and can import for Railroad Companies, and others, on best terms, and at much less prices than they can be supplied from American Mills.

DAVID W. WETMORE,  
218 Water street,  
New York, Sept. 9, 1848. 6w\*

#### TO CONTRACTORS.

SEALED proposals will be received at the office of the Lafayette and Indianapolis Railroad Co. in Lafayette, until the 11th day of October next, for the Grading, Masonry and Bridging of that part of said road lying between the summit south of Durkee's Run, near Lafayette, and Lebanon, in Boone county, about 34 miles. Also, for the wooden superstructure for the same, in a distinct bid.

Plans and specifications will be exhibited by the engineer. By order of the Board.

ALBERT S. WHITE, Pres't.  
Lafayette, Aug. 17, 1848; 2w 1/2

#### DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

#### RAILROAD CARS,

SUCH AS PASSENGER, FREIGHT AND CRANK CARS,

—ALSO—

SNOW PLOUGHS AND ENGINE TENDERS

OF VARIOUS KINDS

CAR WHEELS and AXLES fitted and furnished

at short notice; also, STEEL SPRINGS

of various kinds; and

SHAFTING FOR FACTORIES.

The above may be had at order of our Car Factory,  
RUEL DEAN,  
ELIJAH PACKARD,  
ISAAC MILLS,  
SPRINGFIELD, MASS.  
1748

**RAILROAD SCALES.**—THE ATTENTION of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLICOTT & ABBOTT,  
Factory, 9th street, near Coates, cor. Melon st.  
Office, No. 3 North 5th street,  
Philadelphia, Pa.

#### TO RAILROAD COMPANIES AND MANUFACTURERS OF RAILROAD MACHINERY.

The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,  
a45 N. E. cor. 12th and Market sts., Philad., Pa.

#### THE NEWCASTLE MANUFACTURING

Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gearing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,  
a45 President of the Newcastle Manuf. Co.

#### LAP-WELDED WROUGHT IRON TUBES

FOR

#### TUBULAR BOILERS,

FROM 1 1/2 TO 8 INCHES DIAMETER.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER

Patent.

29 Platt street, New York.

ENGINEERS AND SURVEYERS

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER,

No 23 Pear street, below Walnut

1710 near Third, Philadelphia,

Jan 20 1849



## DIRECT ACTION ENGINES FOR STEAMBOATS.

THE PATENT DOUBLE CYLINDERS,  
AND ALSO

THE ANNULAR RING PISTON ENGINES,  
of Messrs. Maudslay, Sons & Field, of London,  
may be built in the United States, under license,  
which can be obtained of their agent,

THOMAS PROSSER, C. E.,  
28 Platt street, New York.

May 6, 1848.

## WILLIAM JESSOP & SONS, CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly  
receiving, from their manufactory,

PARK WORKS, SHEFFIELD,

Double Refined Cast Steel—Square, flat & octagon.  
Best warranted Cast Steel—Square, flat & octagon.  
Best Double and Single Shear Steel—Warranted.  
Machinery Steel—Round.

Best and 2d gy. Sheet Steel—for Saws and other  
purposes.

German Steel—flat and sq., "W. I. & S." "Eagle"  
and "Goat" Stamps.

Genuine "Sykes" L. Blister Steel.

Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most fa-  
vorable terms, by WM. JESSOP & SONS,

91 John Street, New York.

Also by their Agents—

Curtis & Hand, 47 Commerce St., Philadelphia.

Alex'r Fullerton, & Co., 119 Milk St., Boston.

Stickney & Beatty, South Charles St., Baltimore.

May 6, 1848.

## NEW PATENT CAR WHEELS.

THE SUBSCRIBERS ARE NOW MANU-  
facturing Metallic Plate Wheels of their in-  
vention, which are pronounced by those that have  
used them, a superior article, and the demand for  
them has met the most sanguine expectations of the  
inventors. Being made of a superior quality of  
Charcoal Iron, they are warranted equal to any  
manufacture.

We would refer Railroad Companies and others  
to the following roads that have them in use. Hart-  
ford and New Haven, Connecticut River Railroad,  
Housatonic, Harlem, Farmington, and Stonington.

SIZER & CO.

January 22, 1848, if

Springfield, Mass.

## INDIA RUBBER RAILROAD SPRINGS.

These springs are now generally acknowledged  
to be far superior to steel. They are very much  
lighter—their power is more easily regulated—they  
are more elastic, and yet possess great strength, and  
they always retain their elasticity, and are not affect-  
ed by extremes of cold or heat. The very easy mo-  
tion which a Car possesses when fitted with these  
springs is at once perceptible. They are equally  
applicable to Engines and Tenders.

Railroad and other companies are requested to  
notice that the Patent for these springs was granted  
to W. C. Fuller by the United States Government,  
and that any parties vending or using such springs,  
without his license, infringe upon his Patent, and  
will be proceeded against for so doing.

G. M. KNEVITT, Agent for the Patentee,  
78 Broad St., New York.

July 15, 1848.

## TO RAILROAD CONTRACTORS. NASH- VILLE AND CHATTANOOGA Railroad.

On the 1st of August next Proposals will be received  
at the Railroad Office in Nashville, for the Gradu-  
ation and Masonry of Forty Miles of the Nashville  
and Chattanooga Railroad, comprising a large am't  
of rock excavation, and One Tunnel of Seven Hun-  
dred Yards in Length.

CHARLES F. M. GARNETT,

527

Chief Engineer.

## RAILROAD IRON AND LOCOMOTIVE

Tyres imported to order and constantly on hand  
by A. & G. RALSTON

Mar. 20th

4 South Front St., Philadelphia.

## MATTEWAN MACHINE WORKS.

THE MATTEWAN COMPANY HAVE  
added to their Machine Works, an extensive  
Locomotive Engine department, and are prepared  
to execute orders for Locomotive Engines of every  
size and pattern—also, *Tenders, Wheels, Axles,* and  
other Railroad Machinery, to which they ask the at-  
tention of those who wish such articles, before they  
purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC.,  
Of any required size or pattern, arranged for driv-  
ing *Colliers, Woollen, or other Mills,* can be had on  
favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY,  
Of every description, embodying all the modern im-  
provements, second in quality to none in this or any  
other country, made to order.

## MILL GEARING,

Of every description, may be had at short notice, as  
this company has probably the most extensive as-  
sortment of patterns in this line, in any section of  
the country, and are constantly adding to them.

## TOOLS.

Turning Lathes, Slabbing, Planing, *Cutting,* and  
Drilling Machines, of the most approved patterns,  
together with all other tools required in machine  
shops, may be had at the Mattewan Company's  
Shops, Fishkill Landing, or at

39 Pine Street, New York.

WM. B. LEONARD, Agent.

## FAIRBANKS' RAILROAD SCALES.

THE Subscribers are prepared to construct at short  
notice, *Railroad and Depot Scales*, of any desired  
length and capacity. Their long experience as ma-  
nufacturers—their improvements in the construction  
of the various modifications, having reference to  
strength, durability, retention of adjustment, accu-  
racy of weight and despatch in weighing—and the  
long and severe tests to which their scales have been  
subjected—combine to ensure for these scales the uni-  
versal confidence of the public.

No other scales are so extensively used upon Rail-  
roads, either in the United States or Great Britain,  
and the manufacturers refer with confidence to the  
following in the United States.

Eastern Railroad,	Boston and Maine R. R.,
Providence Railroad,	Providence & Wor. R.R.,
Western Railroad,	Concord R. R.,
Old Colony Railroad,	Fitchburg R. R.,
Schenectady Railroad,	Syracuse and Utica R. R.,
Baltimore & Ohio Road,	Baltimore & Susq. R. R.,
Phila. & Reading Road,	Schuylkill Valley R. R.,
Central (Ga.) Railroad,	Macon and Western R.R.,
	New York and Erie Railroad,

and other principal Railroads in the Western, Mid-  
dle and Southern States.

E. & F. FAIRBANKS & CO.

St. Johnsbury, Vt.

Agents: FAIRBANKS & Co., 81 Water st. N. York.

A. B. NORRIS, 196 Market st., Philad.

April 22, 1848.

1y-17

## PATENT HAMMERED RAILROAD, SHIP

and Boat Spikes. The Albany Iron and Nail  
Works have always on hand, of their own manufac-  
ture, a large assortment of Railroad, Ship and Boat  
Spikes, from 2 to 12 inches in length, and of any form  
of head. From the excellence of the material al-  
ways used in their manufacture, and their very gen-  
eral use for railroads and other purposes in this coun-  
try, the manufacturers have no hesitation in warrant-  
ing them fully equal to the best spikes in market,  
both as to quality and appearance. All orders ad-  
dressed to the subscriber at the works, will be promp-  
tly executed.

JOHN F. WINSLOW, Agent.

Albany Iron and Nail Works, Troy, N. Y.  
The above spikes may be had at factory prices, of  
Erastus Corning & Co., Albany; Hart & Merritt,  
New York; J. H. Whitney, do.; E. J. Ewing, Phil-  
adelphia; Wm. E. Coffin & Co., Boston. ja45

THE SUBSCRIBERS ARE PREPARED TO  
execute orders at their Phoenix Works for Rail-  
road Iron of any required pattern, equal in quality  
and finish to the best imported.

REEVES, BUCK & CO.,

Philadelphia.

ROBERT NICHOLS, Agent,

No. 79 Water St., New York.

CHILLED RAILROAD WHEELS.—THE  
undersigned are now prepared to manufacture  
their Improved Corrugated Car Wheels, or Wheels  
with any form of Spokes or Disks, by a new process  
which prevents all strain on the metal, such as is  
produced in all other chilled wheels, by the man-  
ner of casting and cooling. By this new method of  
manufacture, the hubs of all kinds of wheels may  
be made whole—that is, without dividing them into  
sections—thus rendering the expense of banding un-  
necessary; and the wheels subjected to this process  
will be much stronger than those of the same size  
and weight, when made in the ordinary way.

A. WHITNEY & SON,

Willow St. below 13th,

Nov. 10, 1847. [if.]

Philadelphia, Penna.



THE SUBS-  
criber has on hand  
a good assortment of  
his best Leveling and  
Surveying Instru-  
ments, among them  
his improved Com-  
pass for taking angles  
without the needle—  
also Bells, suitable  
for Churches, Rail-  
road Depots, etc.

ANDREW MENEELY,

West Troy, May 12, 1847.

1y-21

## PATENT RAILROAD, SHIP AND BOAT

Spikes. The Troy Iron and Nail Factory keeps  
constantly for sale a very extensive assortment of  
Wrought Spikes and Nails, from 3 to 10 inches,  
manufactured by the subscriber's Patent Machinery,  
which after five years' successful operation, and now  
almost universal use in the United States (as well  
as England, where the subscriber obtained a patent)  
are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes  
having countersink heads suitable to holes in iron  
rails, to any amount and on short notice. Almost  
all the railroads now in progress in the United States  
are fastened with Spikes made at the above named  
factory—for which purpose they are found invalua-  
ble, as their adhesion is more than double any com-  
mon spikes made by the hammer.

All orders directed to the Agent, Troy, N. York  
will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by  
& J. Townsend, Albany, and the principal Iron mer-  
chants in Albany and Troy; J. I. Brower, 222 Water  
St., New York; A. M. Jones, Philadelphia; T. Jar-  
vies, Baltimore; Degrand & Smith, Boston.

Railroad Companies would do well to forward  
their orders as early as practicable, as the subscriber  
is desirous of extending the manufacturing so as to  
keep pace with the daily increasing demand.  
ja45

## TO LOCOMOTIVE AND MARINE EN-

gine Boiler Builders. Pascal Iron Works,  
Philadelphia. Welded Wrought Iron Flues, suit-  
able for Locomotives, Marine and other Steam En-  
gine Boilers, from 2 to 5 inches in diameter. Also,  
Pipes for Gas, Steam and other purposes; extra  
strong Tube for Hydraulic Presses; Hollow Pis-  
tons for Pumps of Steam Engines, etc. Manufac-  
tured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 2d and Walnut Sts., Phila-  
delphia. 11f

## CHILLED RAILROAD WHEELS.—THE

undersigned, the Original Inventor of the *Plate*  
Wheel with solid hub, is prepared to execute all or-  
ders for the same, promptly and faithfully, and sol-  
icits a share of the patronage for those kind of wheels  
which are now so much preferred, and which he ori-  
ginally produced after a large expenditure of time  
and money.

A. TIERS,

Point Pleasant Foundry.

He also offers to furnish Rolling Mill Castings,  
and other Mill Gearing, with promptness, having,  
he believes, the largest stock of such patterns to be  
found in the country.

A. T.

Kemington, Philadelphia Co.,

March 12, 1848.

11f



## NORWICH CAR FACTORY, NORWICH, CONNECTICUT.

At the head of navigation on the River Thames, and on the line of the *Norwich and Worcester Railroad*, established for the manufacture of

**RAILROAD CARS,**  
OF EVERY DESCRIPTION, VIZ:  
**PASSENGER, FREIGHT AND HAND CARS,**

ALSO, VARIOUS KINDS OF  
**ENGINE TENDERS AND SNOW PLOUGHS,**  
**TRUCKS, WHEELS & AXLES**

Furnished and fitted at short notice.

Orders executed with promptness and despatch.

Any communication addressed to

**JAMES D. MOWRY,**

General Agent,

Norwich, Conn.,

Will meet with immediate attention.

## MANUFACTURE OF PATENT WIRE

Ropes and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by

**JOHN A. ROEBLING, Civil Engineer,**  
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition.

## NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.

**G. A. NICOLLS,**  
Reading, Pa.

## TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

### PASCAL IRON WORKS.

#### WELDED WROUGHT IRON TUBES

From 4 inches to 1 in. calibre and 9 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T. L. and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER FLUES.



Manufactured and for sale by  
**MORRIS, TASKER & MORRIS,**  
Warehouse E. E. Corner of Third & Walnut Streets,  
**PHILADELPHIA.**

## LAWRENCE'S ROSENDALE HYDRAULIC CEMENT.

This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floors and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight paper barrels, by **JOHN W. LAWRENCE,**  
143 Front street, New York.

Orders for the above will be received and promptly attended to at this office.

## DAVENPORT & BRIDGES'

**CAR WORKS, CAMBRIDGEPORT, MASS.**



Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country. Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes.

## THE SUBSCRIBER IS PREPARED TO

execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

**PETER COOPER,**

17 Burling Slip, New York

## RAILROAD IRON, PIG IRON, ETC.

600 Tons of T Rail 60 lbs. per yard.

25 Tons of 2 1/2 by 1 Flat Bars.

25 Tons of 2 1/2 by 9-16 Flat Bars.

100 Tons No. 1 Gartsbrie.

100 Tons Welsh Forge Pigs.

For Sale by **A. & G. RALSTON & CO.**

No. 1 So. Front St., Philadelphia

## FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arrester have been extensively used during the last year, on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

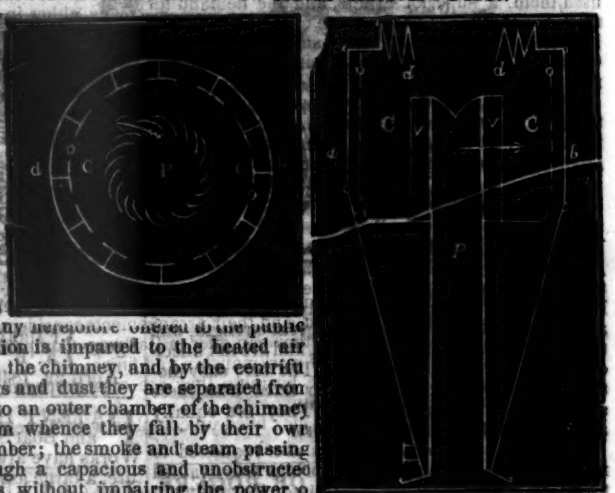
These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits.

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburg and Jackson Railroad, Vicksburg, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad, Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Guyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Flisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city, will be promptly executed.

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

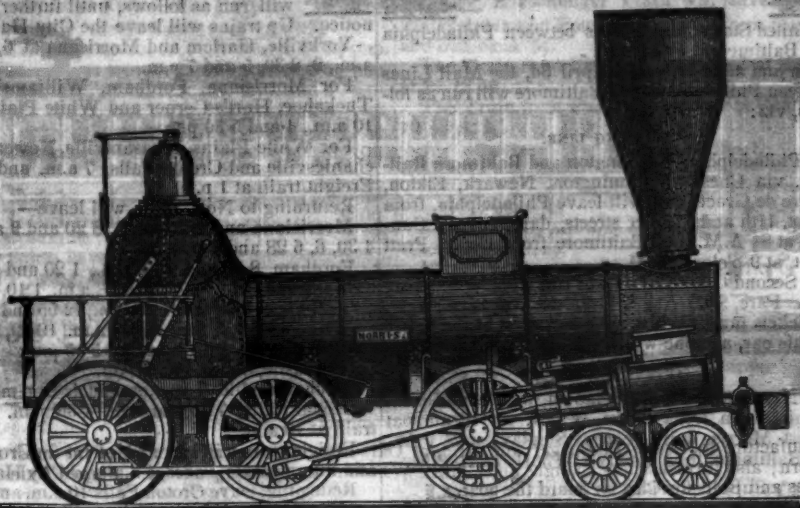
••• The letters in the figures refer to the article given in the Journal of June, 1844.





# NORRIS' LOCOMOTIVE WORKS.

## BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA.



**THE UNDERSIGNED** Manufacture to order Locomotive Steam Engines of any plan or size. Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish. Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality. Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS' BROTHERS.

**MACHINE WORKS OF ROGERS.** Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

**Railroad Work.** Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

**Cotton, Wool and Flax Machinery** of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR, Patterson, N. J., or 60 Wall street, N. York.

**PIG AND BLOOM IRON.—THE SUBSCRIBERS** are agents for the sale of numerous brands of Charcoal and Anthracite Pig-Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Juniata Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of iron is solicited by

**A. WRIGHT & NEPHEW,** 121st St. Vine St. Wharf, Philadelphia.

**T. & C. WASON,** Manufacturers of every style of Freight and Baggage Cars.—Forty rods east of the depot, Springfield, Mass.

Running parts in sets complete, Wheels, Axles, or any part of cars furnished and fitted up at short notice and in the best manner. N. B. Particular attention paid to the manufacture of the most improved Freight Cars. We refer to the New Haven, Hartford and Springfield; Connecticut River; Harlem; Housatonic, and Western, Mass., Railroads, where our cars are now in constant use.

Dec. 25, 1847.—ly.

**SPRING STEEL FOR LOCOMOTIVES,** Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1 1/2 to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent, Albany Iron and Nail Works,

**IMPORTANT TO ENGINEERS, CONTRACTORS, and Surveyors.**—The Engineer's, Contractor's and Surveyor's Pocket Table Book, by J. M. Scribner, A. M., 264 pages, 24 mo; tuck binding, with gilt edge. Published by Huntington & Savage, 216 Pearl street, New York.

The above work comprises Logarithms of Numbers, Logarithmic Sines and Tangents, Natural Sines and Natural Tangents; the Traverse Table, and a full and extensive set of tables, exhibiting at one view the number of cubic yards contained in any embankment or cutting, and for any base or slope of sides usual in practice. Besides these essential tables, the work comprises 50 pages more of Mensuration, Tables, Weights of Iron, Strength of Materials, Formulas, Diagrams, etc., for laying out railroads, canals and curves; much of which has never before been offered to the public, and all dispensable to the engineer. This book will prove a great saving of time, and will enable the new beginner to furnish results as accurately (and with much greater rapidity) as the most experienced in the profession without its aid. The tables of Logarithms, etc., have been carefully corrected and compared with different editions of the same tables; and all the tables throughout the book have been read carefully by proof four times; hence the most implicit confidence may be placed in their correctness.

Also, *Scribner's Engineer's and Mechanic's Companion*, new edition, 264 pages, enlarged, with 35 pages of entirely new matter, and much improved throughout.

It is believed these books are so well adapted to suit the above professions, that they cannot afford to do without them, and that they will aid in rewarding well directed mental labor.

Both are for sale by all the principal booksellers throughout the United States and Canada.

**WESTERN RAILROAD.—ON AND AF-**  
ter Monday, April 5, 1847, the passenger trains will leave daily, Sunday excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.  
Albany at 7 1/4 a. m. and 5 p. m. for Boston.  
Springfield at 8 1/2 a. m. and 1 p. m. for Albany.  
Springfield at 8 1/2 a. m. and 1 1/2 and 3 p. m. (or on arrival of the train from New York) for Boston.  
Day line to New York, via Springfield.—The steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveler, New York, or Champion. Returning, leaves New York at 6 1/4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at m., and arrives in New York at 5 a. m.  
Albany and Troy.—Leave Boston at 8 a. m., Springfield at 1 p. m., and arrive in Albany at 6 p. m.; or leave Boston at 4 p. m., Springfield next morning at 8 1/2, and arrive in Albany at 1 1/2 p. m.

The Troy trains connect at Greenbush.  
The trains for Buffalo leave at 7 a. m. and 7 p. m. For Northampton, Greenfield, etc.—The trains of the Connecticut River Railroad leave Springfield at 8 1/4 a. m., 1 and 3 p. m., and passengers proceed directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from Boston.

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Supt and Eng'r,  
C. A. SEAD, Agent, 27 State street, Boston.



### GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—33 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton.	Between Charleston and Dalton.
		271 miles.	408 miles.
1st class.	Boxes of Hats, Bonnets, and Furniture, per cubic foot.....	\$0 18	\$0 28
2d class.	Boxes and Bales of Dry Goods, Sadlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class.	Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class.	Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.....	0 40	0 65
	Cotton, per 100 lbs.....	0 45	0 75
	Molasses, per hogshead.....	8 50	13 50
	" " barrel.....	2 50	4 25
	Salt per bushel.....	0 18	0 30
	Salt per Liverpool sack.....	0 65	1 00
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows.....	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. O. ARMS, Sup't. of Transportation.  
Atlanta, Ga., July 13, 1847.

### THE WESTERN AND ATLANTIC RAILROAD.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur and Tusculumbia, Alabama, and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT, Chief Engineer.  
Atlanta, Georgia, April 16th, 1846.

### CENTRAL RAILROAD—FROM SAVANNAH TO MACON. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight.

Rates of Passage, \$8 00. Freight—On weight goods generally... 50 cts. per hundred. On measurement goods... 13 cts. per cubic ft. On bria wet (except molasses and oil)... \$1 50 per barrel. On bria dry (except lime)... 80 cts. per barrel. On iron in pigs or bars, castings for mills, and unboxed machinery... 40 cts. per hundred. On hhd. and pipes of liquor, not over 120 gallons... \$5 00 per hhd. On molasses and oil... \$6 00 per hhd.

Goods addressed to F. W. WYNN, Agent, forwarded free of commission. THOMAS PURSE, Gen'l. Supt. Transportation.

### PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1848.

#### SUMMER ARRANGEMENT.

United States Mail Lines between Philadelphia and Baltimore. Fare, \$3.

On and after Monday, April 3d, the Mail Lines between Philadelphia and Baltimore will run as follows, viz:

**MORNING LINE.**  
Per Philadelphia, Wilmington and Baltimore Railroad, via Chester, Wilmington, Newark, Elkton, Havre de Grace, etc., will leave Philadelphia, from Depot, 11th and Market streets, daily (except Sunday) at 8½ A.M., and Baltimore from Depot, Pratt street, at 9 o'clock, A.M.  
A Second Class Car will be run with the morning line. Fare, \$2.

Tickets must positively be procured at the Office for this car, as none will be sold by the conductors.

**AFTERNOON LINE.**  
Via Newcastle and Frenchtown, will leave Philadelphia, from Dock Street Wharf, per Steamboat Robert Morris, daily (except Sunday) at 2½ P.M., and Baltimore, from Bowly's Wharf, at 2½ P.M.

Supper provided on board the boat.

**NIGHT LINE.**  
Per Philadelphia, Wilmington and Baltimore Railroad, will leave Philadelphia, from depot, 11th and Market streets, daily, at 11 P.M., and Baltimore at 8 P.M.

**WHEELING AND PITTSBURG.**  
Tickets through to Wheeling or Pittsburg, can be procured at the depot, or on board of the steamboat. Fare to Wheeling, \$13. Fare to Pittsburg, \$12. The trains leave Baltimore for the west at 7 A.M. and 4 P.M.

**SUNDAY MAIL LINE.**  
The only line for Baltimore, on Sunday leaves the depot, 11th and Market streets, at 10 P.M.  
Passengers for these lines must procure their Tickets at the office before taking their seats in the cars.

**NOTICE.**—All Baggage by these lines is at its owner's risk, and passengers are expressly prohibited taking anything as baggage, except their wearing apparel. 50 lbs. baggage allowed each passenger.

#### WILMINGTON ACCOMMODATION TRAINS.

On and after Monday, April 3d, the Accommodation Trains, stopping at all the intermediate places between Philadelphia and Wilmington, will leave as follows, viz:

Leave Philadelphia, from depot 11th and Market streets, daily (Sundays excepted) at 11 and 4 P.M.  
Leave Wilmington, from the depot, Water street, daily (except Sunday) at 7½ A.M. and 4½ P.M.

The Freight Accommodation Train will leave Philadelphia at 7 P.M. and Wilmington at 7 P.M.  
The Mail Trains stopping at Chester and Wilmington, leave Philadelphia at 8½ A.M. and 10 P.M. Wilmington at 1 o'clock, P.M., and 12 midnight. Fare to Wilmington, 50 cts. Fare to Chester, 25 cts.

G. H. HUDDALL, Agent.  
March 23, 1848.

### NOTICE.

#### RAILROAD LINE BETWEEN ALBANY AND BUFFALO, N. Y.

1848.—SCHEDULE FOR RUNNING.—1848.

Going west. 1st train. 2d train. 3d train.  
Leaves Albany... 7½ A.M. 9 P.M. 7 P.M.  
Pass... Utica... 7 P.M. 11 P.M. 11 A.M.  
Pass... Syracuse... 11 P.M. 11 P.M. 5 A.M.  
Pass... Auburn... 6 P.M. 1 A.M. 7 A.M.  
Pass... Rochester... 12 M.N. 7 A.M. 1 P.M.  
Arrives at Buffalo... 5½ A.M. 12 M. 6 P.M.

Going east. 1st train. 2d train. 3d train.  
Leaves Buffalo... 7 A.M. 9 P.M. 7 P.M.  
Pass... Rochester... 12 M. 7 P.M. 19 M.N.  
Pass... Auburn... 6 P.M. 1 A.M. 6 A.M.  
Pass... Syracuse... 8 P.M. 3 A.M. 8 A.M.  
Pass... Utica... 12 M.N. 7 A.M. 11 A.M.  
Arrives at Albany... 5 A.M. 12 M. 4 P.M.

Adopted February 18, 1848, in convention at Albany. (Copy.) T. Y. HOWE, Jr., Secretary of the Convention.

### NEW YORK & HARLEM RAILROAD CO.—Summer Arrangement.—On and after Tuesday, June 1st, 1847, the cars

will run as follows, until further notice. Up trains will leave the City Hall for—

Yorkville, Harlem and Morrisana at 6, 8 and 11 a.m., 2, 3, 5 and 7 p.m.

For Morrisana, Fordham, Williams' Bridge, Tuckahoe, Hart's Corner and White Plains, 7 and 10 a.m., 4 and 5 30 p.m.

For White Plains, Pleasantville, Newcastle, Mechanicsville and Croton Falls, 7 a.m. and 4 p.m. Freight train at 1 p.m.

Returning to New York, will leave—

Morrisana and Harlem, 7, 8 20 and 9 a.m., 1, 3, 4 30, 6, 8 28 and 8 p.m.  
Fordham, 8 08 and 9 15 a.m., 1 20 and 6 15 p.m.  
Williams Bridge, 8 and 9 08 a.m., 1 10, 6 08 p.m.  
Tuckahoe, 7 38 and 8 28 a.m., 12 55 and 5 52 p.m.  
White Plains, 7 10 and 8 35 a.m., 12 50, 5 35 p.m.  
Pleasantville, 8 15 a.m. and 5 15 p.m.  
Newcastle, 8 a.m. and 5 p.m.  
Mechanicsville, 7 48 a.m. and 4 48 p.m.  
Croton Falls, 7 30 a.m. and 4 30 p.m. Freight train at 10 a.m.

Freight train will leave 32d street for Croton Falls and intermediate places, 4 a.m. and City Hall 1 p.m. Returning, leave Croton Falls 10 a.m. and 9½ p.m.

**ON SUNDAYS,** the trains will run as follows: Leave City Hall for Croton Falls, 7 a.m., 4 p.m. Croton Falls for City Hall, 7 30 a.m., 4 30 p.m. Leave City Hall for White Plains and intermediate places, 7 and 10 a.m. 4 and 5 30 p.m.

White Plains for City Hall, 7 10 and 8 35 a.m., 12 30 and 5 35 p.m.

Extra trains will be run to Harlem, Fordham and Williams Bridge on Sunday, when the weather is fine.

The trains to and from Croton Falls will not stop on N. York island, except at Broome st. and 32d st.

A car will precede each train 10 minutes to take up passengers in the city.

Fare from New York to Croton Falls and Somers \$1, to Mechanicsville 87c., to Newcastle 75c., to Pleasantville 62c., to White Plains 50c.

### BOSTON AND MAINE RAILROAD.

#### Upper Route, to Portland and the East.

#### Summer Arrangement.

Commencing July 3d, 1848.

Trains leave Boston as follows, viz:

For Portland at 7 A.M. and 2 P.M.  
For Great Falls at 7 a.m., 2½ and 4½ p.m.  
For Haverhill at 7 and 11½ a.m., 2½, 4½ and 6 p.m.  
For Lawrence at 7, 9, 11½ a.m., 2½, 4½, 6, 7 p.m.  
For Reading at 7, 9, 11½ a.m., 2½, 4½, 6, 7, 8½ and 10 p.m.

Trains leave for Boston as follows, viz:

From Portland at 7½ a.m., and 3 p.m.  
From Great Falls at 6½ and 9½ a.m., and 4½ p.m.  
From Haverhill at 7, 8½ and 11 a.m., 3½ and 6½ p.m.  
Lawrence at 6½, 7½, 8½, 11½ a.m., 12½, 3½, 6½ p.m.  
Reading at 6, 6½, 7½, 9½, 11½ a.m., 1, 4, 7½, 9, 10 p.m.

#### MEDFORD BRANCH TRAINS.

From Boston at 6:50, 9½ a.m., 12½, 2½, 5½, 7, 10 p.m.  
From Medford at 6:10, 7½, 10½ a.m., 2, 4, 6½, 9½ p.m.

#### STEAMBOAT TRAINS.

For BANGOR, every Monday, Wednesday and Friday, at 5 p.m.

For HALLOWELL, every Tuesday, Thursday & Saturday, at 7 a.m.

The Depot in Boston is on Haymarket Square.

CHAS. MINOT, Super't.  
Boston, July 31, 1848.

### BOSTON AND PROVIDENCE RAILROAD.—Summer Arrangement. On and after Monday, April 3, 1848, the

Trains will run as follows:

Steamboat Train—Leaves Boston daily, except Sunday, at 5 o'clock p.m.

Accommodation Trains—Leave Boston at 7 and 11 a.m. and 4 p.m., and Providence at 7½ and 11 a.m. and 4½ p.m.

Pawtucket Train—Leaves Boston at 4 p.m. and Pawtucket at 7, 10 a.m.

Dedham Trains—Leave Boston at 8 a.m., and 12½, 3½, 6½ and 9 p.m. Leave Dedham at 7 and 9½ a.m. and 2½, 5½ and 8 p.m.

Stoughton Trains—Leave Boston at 11½ a.m. and 5½ p.m. Leave Stoughton at 7, 10 a.m. and 3½ p.m.

WM. RAYMOND LEE, Sup't.



**BALTIMORE AND SUSQUEHANNA RAILROAD.**—Reduction of Fare. Morning and Afternoon Trains between Balti-

more and York.—The Passenger trains run daily, except Sunday, as follows:  
Leaves Baltimore at.....9 a.m. and 3 p.m.  
Arrives at.....9 a.m. and 6 p.m.  
Leaves York at.....5 a.m. and 3 p.m.  
Arrives at.....12 p.m. and 8 p.m.  
Leaves York for Columbia at.....4 p.m. and 8 a.m.  
Leaves Columbia for York at.....8 a.m. and 2 p.m.

Fare to York.....\$1 50  
" Wrightsville.....2 00  
" Columbia.....2 12 1/2

Way points in proportion.

**PITTSBURG, GETTYSBURG AND HARRISBURG.**

Through tickets to Pittsburg via stage to Harrisburg.....\$9  
Or via Lancaster by railroad.....10  
Through tickets to Harrisburg or Gettysburg.....3  
In connection with the afternoon train at 3 p.m., a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at.....5 1/2 p.m.  
Returning, leaves Owing's Mills at.....7 a.m.  
D. C. H. BORDLEY, Sup't.  
31 ly Ticket Office, 63 North st.

**BALTIMORE AND OHIO RAILROAD.**

**MAIN STEM.** The Train carrying the Great Western Mail leaves Baltimore every morning at 7 1/2 and Cumberland at 8 o'clock, passing Ellicott's Mills, Frederick, Harpers Ferry, Martinsburgh and Hancock, connecting daily each way with the Washington Trains at the Relay House seven miles from Baltimore, with the Winchester Trains at Harpers Ferry—with the various railroad and steamboat lines between Baltimore and Philadelphia and with the lines of Post Coaches between Cumberland and Wheeling and the fine Steamboats on the Monongahela Slack Water between Brownsville and Pittsburgh. Time of arrival at both Cumberland and Baltimore 5 1/2 P. M. Fare between those points \$7, and 4 cents per mile for less distances. Fare through to Wheeling \$11 and time about 36 hours, to Pittsburgh \$10, and time about 32 hours. Through tickets from Philadelphia to Wheeling \$13, to Pittsburgh \$12. Extra train daily except Sundays from Baltimore to Frederick at 4 P. M., and from Frederick to Baltimore at 8 A. M.

**WASHINGTON BRANCH.**

Daily trains at 9 A. M. and 5 P. M. and 12 at night from Baltimore and at 6 A. M. and 5 P. M. from Washington, connecting daily with the lines North, South and West at Baltimore, Washington and the Relay house. Fare \$1 60 through between Baltimore and Washington, in either direction, 4 cents per mile for intermediate distances. 31 ly

**NORWICH AND WORCESTER RAILROAD.**—Summer Arrangement—1848.

**Accommodation Trains.**  
daily, (Sundays excepted.)  
Leave Norwich, at 6 a. m., 12 m. and 5 p. m.  
Leave Worcester, at 6 1/2 and 10 a. m., and 4 1/2 p. m. connecting with the trains of the Boston and Worcester and Providence and Worcester railroads.

**New York & Boston Line.** Railroad & Steamers. Leave New York and Boston, daily, Sundays excepted, at 5 p. m.—At New York from pier No. 1 N. River.—At Boston from corner Lincoln and Beach streets, opposite United States Hotel. The steamboat train stops only at Framingham, Worcester, Danielsonville and Norwich.

Freight Trains leave Norwich and Worcester daily, Sundays excepted.—From Worcester at 6 1/2 a. m., from Norwich at 7 a. m.

Fares are Less when paid for Tickets than when paid in the Cars. 31 ly S. H. P. LEE, Jr., Sup't.

**RAILROAD IRON—2500 TONS HEAVY R. H. Rail,** now landing, and expected shortly to arrive, for sale on most favorable terms by

DAVIS BROOKS &amp; CO.

July 1848, 11 63 Broad street, New York.

**PHILADELPHIA AND READING RAILROAD.**—Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

Fares.	Miles.	No. 1.	No. 2.
Between Phila. and Pottsville, 92		\$3 50 and \$3 00	
" " Reading, 58		\$2 25 and 1 90	
" " Pottsville, 34		1 40 and 1 20	

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 81 ly

**SOUTH CAROLINA RAILROAD.**—A

Passenger Train runs daily from Charleston, on the arrival of the boats from

Wilmington, N. C., in connection

with trains on the Georgia and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tusculum Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily.....\$26 50

Fare through from Charleston to Huntsville, Decatur and Tusculum.....22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad. 25 JOHN KING, Jr., Agent.

**CENTRAL AND MACON AND WESTERN RAILROADS, Ga.**—These Roads with the

Western and Atlantic Railroad

of the State of Georgia, form a continuous line from Savannah to Oothcaloga, Ga., of 371 miles, viz:

	Miles.
Savannah to Macon—Central Railroad.....	190
Macon to Atlanta—Macon and Western.....	104
Atlanta to Oothcaloga—Western and Atlantic.....	80

Goods will be carried from Savannah to Atlanta and Oothcaloga, at the following rates, viz:

On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope, Butter, Cheese, Tobacco, Leather, Hides, Cotton Yarns, Copper, Tin, Bar & Sheet Iron, Hollow Ware & Castings.....	Per 100 lbs.	Per 1000 lbs.
Flour, Rice, Bacon, in Casks or boxes, Pork, Beef, Fish, Lard, Tallow, Beeswax, Mill Gearing, Pig Iron and Grind Stones.....	0 50	0 62 1/2

On Measurement Goods—Boxes of Hats, Bonnets and Furniture, per cubic foot.....	Per 100 lbs.	Per 1000 lbs.
Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per cubic foot.....	0 20	0 26

Crockery, per cubic foot.....	Per 100 lbs.	Per 1000 lbs.
Molasses and Oil, per hhd., (smaller casks in proportion).....	9 00	12 50

Ploughs, (large,) Cultivators, Corn Shellers, and Straw Cutters, each.....	Per 100 lbs.	Per 1000 lbs.
Ploughs, (small,) and Wheelbarrows.....	0 80	1 05

Salt, per Liverpool Sack.....	Per 100 lbs.	Per 1000 lbs.
Passage—Savannah to Atlanta, \$10; Children, under 12 years of age, half price, Savannah to Macon, \$7.	0 70	0 95

Goods consigned to the subscriber will be forwarded free of Commission.

Freight may be paid at Savannah, Atlanta or Oothcaloga.

F. WINTER, Forwarding Agent, C. R. R. Savannah, Aug. 15th, 1846. 1734

**NEW YORK ANDERIE RAILROAD LINE.**—SUMMER ARRANGEMENT. For passengers, twice each way daily, (except Sunday,) leave New

York from the foot of Duane St. at 7 o'clock A. M., and at 4 o'clock P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville, and the intermediate stations.

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 23, A. M. and 5 3, P. M.; Chester at 7 35, A. M. and 5 15, P. M.

Fare between New York and Otisville, \$1 50; way-fare in proportion.

For Milk—Leave Otisville at 5 1/2 o'clock, morning and evening.

For Freight—The barges "Samuel Marsh and "Henry Saydam, Jr." will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays).

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10 1/2 o'clock, A. M.; Middletown at 11 1/2, A. M.; Goshen at 12 1/2, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York, or to S. S. POST, Superintendent Transportation, Piermont.

H. C. SEYMOUR, Sup't.

**LITTLE MIAMI RAILROAD COMPANY.**

Fall and Winter Arrangement, 1847. On and after Monday, September 30th,

until further notice, a Passenger train will run as follows:

Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Yellow Springs, and Springfield. Returning, will leave Springfield at 4 1/2 a.m. Upward train arrives at Springfield at 2 1/2 p.m. Downward train arrives at Cincinnati at 10 1/2 a.m.

Freight trains will run each way daily.

Messrs. Neil, Moore & Co. are running the following stage lines in connection with the road:

A daily line from Xenia to Columbus and Wheeling, carrying the great Eastern mail.

Daily lines from Springfield to Columbus, Zanesville and Wheeling. Also to Urbana and Bellefontaine.

A line of Hacks runs daily in connection with the train between Deerfield and Lebanon.

Passengers leaving for New York and Boston, arrive at Sandusky city via Urbana, Bellefontaine & the Mad River and Lake Erie railroad, in 27 hours, including several hours' sleep at Bellefontaine.

To the same point via Columbus, Delaware, Mansfield and the Mansfield and Sandusky city railroad, in 33 hours. Distance from Cincinnati to Springfield by railroad.....84 miles.

From Springfield to Bellefontaine by stage, over a good Summer road.....33 "

From Bellefontaine to Sandusky city by railroad.....102 "

Fares—From Cincinnati to Lebanon.....\$1 00

" " " " Xenia.....1 50

" " " " Springfield.....2 00

" " " " Columbus.....4 00

" " " " Sandusky city 7 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

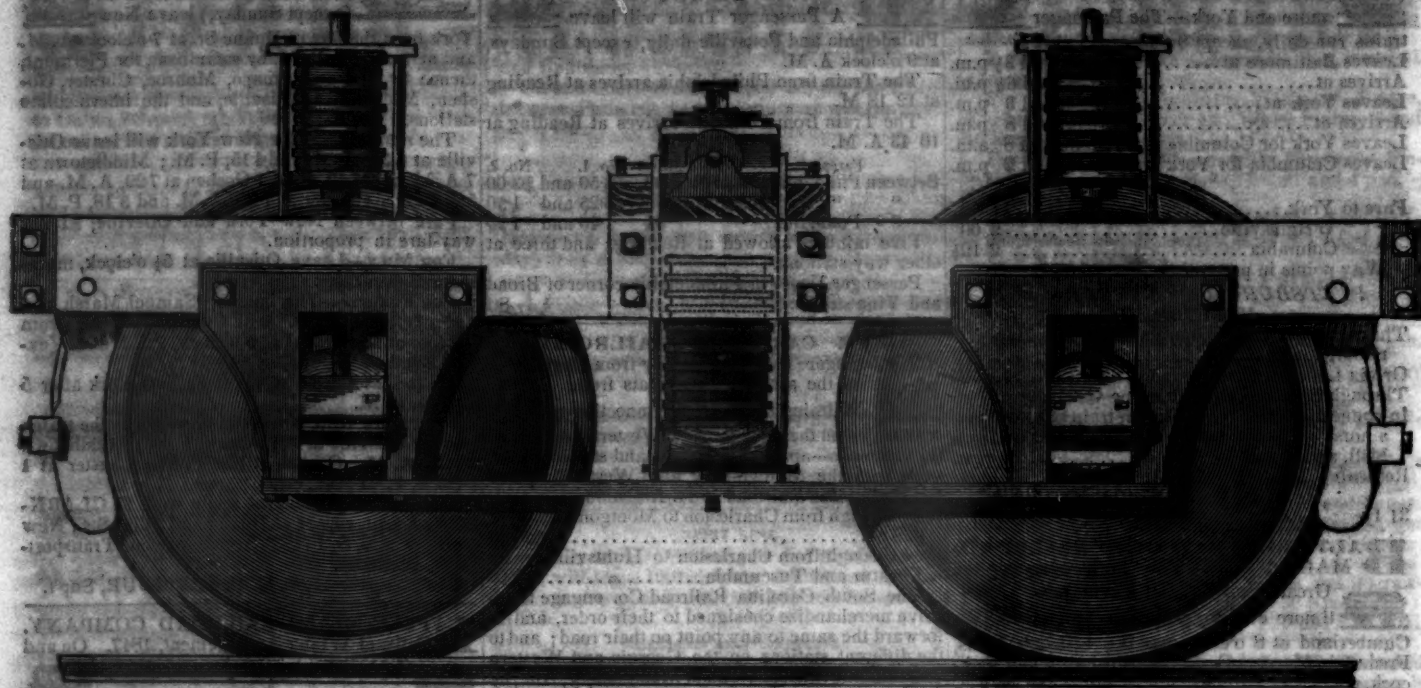
Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at a passage for every \$500 in value over that amount.

W. H. CLEMENT, Sup't.



## VULCANIZED INDIA RUBBER CAR SPRINGS.



**THE NEW ENGLAND CAR COMPANY** have introduced these Springs, and they are now in operation on every Railroad terminating in Boston, and several others in New England and the Middle States. Their qualities are well understood, or may be readily ascertained by every person interested to know them. They require no recommendation from the Company. The only known compound of India Rubber good for anything for this purpose is the Vulcanized India Rubber, invented by Charles Goodyear, of New Haven, and the application of it, and the form in which it is used, were invented by F. M. Ray, of New York. The right to manufacture and sell the substance itself for the purpose of Railroad Carriage Springs, as well as the form and application of it, are held exclusively by the New England Car Company. No other company, or individual, has any right to sell or use it for such purpose, or has attempted so to use it in this country.

The New England Car Company guarantee the right to use the article they sell for Railroad Carriage Springs only, against all adverse rights, whether under patents or otherwise; and all persons and corporations are cautioned against a similar use of the article, when purchased of any other parties.

The Springs they sell are all manufactured in a uniform manner, and under the immediate inspection of their own Agent, and have been proved and known to answer the purpose. None have been manufactured in this country or imported from abroad beside their own, which would at all answer the purpose; and if any such should be produced, it cannot be used for Car Springs, while Goodyear's patents, and the rights of the New England Car Company under them, remain in force.

The New England Car Company are now prepared to answer orders for all that may be called for, on reasonable notice, and uniform and equitable terms. They invite the most careful examination, and the severest scrutiny, into the merits of their Springs, wherever they have applied them. And if after such examination, your Company should judge it for their interest to adopt them, the N. E. Car Company would respectfully invite the patronage which they think they deserve, and are confident of receiving at your hands.

**EDWARD CRANE, Agent,**  
Office 99 State street.

Orders may also be left with **F. M. RAY**, 100 Broadway, or with **WM. RIDER & BROTHERS**, No. 59 Liberty street, New York.

The following article, from the pen of Mr. HALE, the president of the Boston and Worcester railroad, expresses his opinion of this important improvement, as published in the Boston Daily Advertiser of June 7, 1848. He says:

"Of the numerous uses to which the wonderful elasticity and durability of India Rubber renders this material applicable, we are hardly aware of one in which it has been more successful than in forming springs for railroad cars. We have had occasion to observe, for some months past, its application to this use, on one of the passenger cars on the Newton special train of the Boston and Worcester railroad. It is there used, not only for the springs on which the car rests, but for the springs attached to the draw bar at each end of the car, to prevent any jar on the sudden advancement or interruption of the motion of the car. For both these purposes it appears to be admirably adapted, and we do not learn, that during the period in which it has been used, any defect in it has been discovered. It renders the movements of the car extremely easy, and protects it more effectually, we think, than any other spring which we have ever seen in use, from every harsh or unpleasant motion, either vertical or horizontal. It is simple in its form and application, extremely light, and little liable to get out of repair. During the period of some months, in which we have seen the springs in operation, there is no apparent wear or diminution of their efficiency."

The above statement of Mr. Hale agrees with my own observation in all particulars.

**WM. PARKER, Supt. B. & W. R. R.**  
June 8, 1848.

I fully concur in the foregoing statement, from practical observation of its use for the last 5 months, on the Boston and Worcester railroad corporation cars.

**D. N. PICKERING, Jr.,**  
Supt. Car Building B. & W. R. R.

Boston, June 10, 1848.

The New England Car Company have introduced their Vulcanized India Rubber Car Springs on the roads with which we are respectively connected, and we fully concur with Mr. Hale in the above opinion of their character and properties.

**DAVENPORT & BRIDGES, Car Builders,**  
**BRADLEY & RICE, Car Builders,**  
Boston, June, 1848.

**LAP-WELDED WROUGHT IRON TUBES** for Tubular Boilers, from 14 to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

**IRVING VAN WART,**  
12 Platt street, New York.  
**JOB CUTLER, Patentee.**

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom.

### AMERICAN RAILROAD JOURNAL.

OFFICE AT 48 SOUTH THIRD STREET,  
(Below Chestnut Street);  
**PHILADELPHIA, PA.**

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

**TERMS.**—Five Dollars a year, in advance.

### RATES OF ADVERTISING.

One page per annum.....	\$125 00
One column ".....	50 00
One square ".....	15 00
One page per month.....	20 00
One column ".....	8 00
One square ".....	2 50
One page, single insertion.....	8 00
One column ".....	3 00
One square ".....	1 00
Professional notices per annum.....	5 00

**LETTERS AND COMMUNICATIONS** for this Journal may be directed to the Editor,  
**D. K. MINOR.**